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The conviction of the first of the rioters tried in the Coeur d'Alene for his part in the destruction of the Bunker Hill & Sullivan Mill and other outrages perpetrated by the Miners' Union, ended last week in his conviction and sentence to 17 years' imprisonment for murder in the second degree. It is an encouraging sign that a conviction has at last been secured after so long a period of unpunished violence and murder. It is all the more encouraging because the conviction was secured in the State court, which, it was feared, was peculiarly subject to local influences. It is to be hoped that this is not the last, but that others will follow, as they are well deserved. It looks as if the law-abiding people of the district had made up their minds at last to resist the reign of tyranny and violence to which they have so long submitted.

We are much pleased to see that all the best papers of Arizona are taking sides against the fake mining companies which have been bringing disgrace upon the Territory. The latest of these is the "Arizona Bulletin," published in the county where the Spenazuma "mines" are located. An article in this paper shows very fully the nature of the so-called property of the company and how widely it differs from the claims made for it in the company's circulars.

District Attorney Jones, of Graham County, has been securing evidence which may enable him to convict the managers of the Spenazuma of fraud. He is now convinced that the "mines" have been salted, and expects soon to have the necessary evidence from some of the victims in the East, where the stock was sold. This testimony will be submitted to the grand jury of Graham County at the next session of court. This is a practical method of bringing out the truth in the case, and the district attorney deserves credit for his action.

The capacity of the great iron mines of the Mesabi Range in Minnesota has often been referred to, but has never been realized as it has this season. The most striking instance is shown in our news correspondence on another page. The Mountain Iron Mine of the Oliver Iron Company began the season by shipping from 5,000 to 7,000 tons of iron ore a day; but even this remarkable work has been surpassed recently, and the shipments have run from 8,000 to 11,000 tons a day. Nothing like this, we believe, has ever been done before, and the mine must certainly be considered the greatest shipper of iron ore in the world. The Mountain Iron is a "steam shovel mine;" that is, the workings are open and the ore is taken out and loaded on the railroad cars by steam shovels. The number of men employed is very small, the total being less than 250 of all classes.

Another Mesabi mine, the Fayal, promises to reach a total shipment of 1,000,000 tons this season, and will probably take place not far behind the Mountain Iron. With such records the Mesabi Range can claim to be the greatest iron producer in the world.

Very contradictory accounts have come this season from the Atlin Lake country in the northern part of British Columbia, to which a rush was started last year by the reports of some prospectors. On the one hand parties who have been in the country have reported that there is nothing there; while on the other new attempts have been made to boom the region. The truth—lying as usual between the two extremes—seems to be contained in a letter published elsewhere, from a correspondent who has had much experience in placer mining in the North. It is not a "poor man's country," the opportunities for the single prospector with little or no capital being very limited. There are, however, values there, which can be obtained to best advantage by hydraulicking on a large scale. For such working there is plenty of water, with other advantages, the chief drawback being the short season during which work can be carried on. The warning to individual prospectors will probably be little heeded, but the force of the Atlin boom was really broken by the decision of the British Columbia authorities to refuse grants to foreign miners under the new law, which shut out American prospectors.

We have received several curiously worded circulars from Mexico questioning the honesty and attacking the intentions of Messrs. Tiedemann and Meinhart, who now control the Union Smelter Manufacturing Company, in St. Louis; and we have seen a number of these circulars which have been sent to other parties. The gentlemen named, it will be remembered, became connected some time ago with the National Ore and Reduction Company, established by the notorious C. L. Hartsfeld; but discovering the nature of his operations, they succeeded in ousting him and in establishing the company on an honest basis and under a new name. Hartsfeld is now in Mexico, where he went under circumstances which will hardly permit him to return to this country.

From an examination of the post marks, directions, etc., on the circulars referred to, it is apparent that they are sent by one person. That this person is Hartsfeld himself there is little doubt from all the evidence. He seems now to be trying to get even with his successors in this way, by trying to injure their reputation and prevent them from es-

tablishing their business. It is a mean revenge, but one quite in keeping with Hartsfeld's character and methods. Our readers are fully acquainted with these, but they may be interested in knowing the latest developments in the case. We trust that those who may have received the circulars referred to will understand the purpose for which they were sent, and will give them as little consideration as they deserve.

The British iron market is in a condition very similar to our own, with the strongest demand known for years, and the highest prices. There, as well as here, certain parties in the trade have been using the cry of scarcity and an "iron famine," and with some effect. Probably there is a little more in this cry in Great Britain than there is here, since there are not as great possibilities of expansion in the production of pig iron; at least it will take much longer to increase the output to any considerable extent. The latest advices show that Scotch pig warrants were selling at $16.90 to $17; Cleveland pig at $16.80, and West Coast Bessemer at $18.10 to $18.20. One of the peculiarities of the situation is that the usual difference of $1 or so between Scotch pig and Cleveland iron has almost disappeared, and the lower grade metal is bringing very nearly as much as the higher.

This condition shows one essential difference between the present strong iron market and the short-lived boom of 1895. The activity now is not limited to this country, but extends practically to all the leading iron-making countries. Little relief can therefore be expected from imports or purchases from other countries, where the supplies are already well taken up. No producing country has very much to spare just now, outside of its regular customers.

A good deal has been said in some of the English papers about orders for steel coming from the United States. It seems, however, that they have been making much talk out of a small matter, the only basis for the comments made having been one or two orders placed abroad for steel by mills which found it impossible to get as early deliveries here as they wanted. There is no doubt that there will be iron and steel enough to meet all demands; but every one cannot get deliveries at once.

THE SILVER MARKET.

Thus far during the present year silver has maintained a higher level of prices than were shown a year ago. Although the production has been large, the market has absorbed, apparently with ease, all that has been offered. The most important figures are those of the London market, and we give below the statement of imports and exports of silver in Great Britain for the six months ending June 30th, taken from the Board of Trade returns:

	Imports.		Exports.	
	1898.	1899.	1898.	1899.
United States	£4,166,871	£4,668,379	£7,303	£4,887
Other American countries	777,741	477,495	41,725	161,168
Africa	57,858	74,439	409,728	331,761
Australasia	27,106	67,256	59,967	91,575
Europe	997,915	1,862,310	2,747,828	4,039,202
The East	329	433	3,528,748	3,325,774
Countries not specified	11,171	7,540	41,920	25,684
Totals	£6,038,991	£6,157,852	£6,837,219	£7,980,051

These figures shown an active silver market. The increase this year over last in the imports was £1,118,861, or 18.5 per cent.; while that in exports was £1,142,832, or 16.7 per cent.; showing a somewhat greater proportion, though the actual amounts nearly balanced each other. The increase in quantities, however, has not been quite as great as that in values, since the average price of silver in London for the first half of the year was considerably higher this year—27.65 pence per sterling ounce, against 26.17 pence in 1898. At these prices the increase in actual quantity of silver exported was 10.5 per cent.; and in imports, 11.6 per cent.

Of the London imports the United States furnished more than all other countries together, its proportion of the total having been 65.2 per cent this year, against 69.0 per cent. last year. In the actual amount received, however, there was a considerable increase—£501,508, or 12 per cent. The receipts from Mexico showed a marked decrease, which was very probably more apparent than real, being due to the increased quantity of silver bullion sent to the United States to be refined; this silver being credited to this country in the reports. The Australasian receipts show a large relative gain, which was chiefly due to changes in the handling of ores and bullion from some of the Broken Hill mines, and larger shipments to England for treatment. The only other change of moment was the decrease in receipts from European countries, which was in large measure due to buying in Belgium and Germany on Russian account of silver, which would otherwise have been shipped to London for a market.

The exports show some changes which are noteworthy. Those to the East, which are generally considered most important to the market—though they have not been so this year—are shown in the following table:

	1898.	1899.	Changes.	
China	£359,355	£742,996	I.	£383,641
Japan	150	.....	D.	150
British East Indies	3,169,243	2,582,778	D.	586,465
Totals	£3,528,748	£3,325,774	D.	£203,026

These Eastern shipments show a decrease of 6.1 per cent., India having taken 18.3 per cent. less than last year, though the shipments to China more than doubled. The shipments to the East from San Francisco have not been heavy this year. Estimating at average values the quantity of silver sent to the East from London was approximately 28,867,500 ounces, and from San Francisco 3,403,500; a total of 32,271,000 ounces, and a decrease of about 7.5 per cent. While there was a real decrease in the quantities taken by India, those sent to China showed a very large gain; much larger, in fact, than the tables indicate. It is true that the selling of silver in China through the Deutsche-Asiatische Bank, to which reference was made in our columns last year, has been on a smaller scale, the reserves thus offered having apparently been drawn down to a low point; but on the other hand, China has already received some silver from Russian sources, which is probably only the beginning of a large movement. The amount of this it is very difficult to determine.

The most important change in the shipments from London this year has been in those to European countries, which exceeded those to the East by £713,428, and showed a gain over last year of £1,291,374, or 47 per cent. To most of the European countries the shipments show some decrease, and the total gain was entirely in the exports to Russia, which this year amounted to £2,778,198, against £706,508 in 1898. In addition to this some buying on Russian account is reported in Germany.

The London financial papers have been inclined to make rather a mystery of this buying, especially as the requirements for the new Russian coinage were largely filled last year. They have also enlarged on the fact that the purchases referred to have been very quietly made. The explanation, however, seems an entirely simple one. Russia is spending a large amount of money in railroad construction and other work in Manchuria and Northern China; possibly also something in Pekin. These payments must be made very largely in silver, and the metal bought in London is intended for that purpose. As to the alleged secrecy, it would hardly be the part of a shrewd buyer to proclaim his large wants too widely, and thus put up prices on himself. The supposed mystery is thus very easily disposed of.

The only recent incident which might have been expected to affect the silver market seriously, is the publication of the report of the Indian Currency Commission; but this had so little effect that it could hardly be noticed. The fact is that its recommendations had been generally anticipated, as the commission had evidently been selected for the purpose of indorsing the previously adopted ideas of the India Council. There were no members of it who were thoroughly familiar with Indian currency and trade conditions as they actually exist, and only one who had really much knowledge of India at all. We have not space here, however, to criticise the commission, but only to note the effect of its report.

The recommendations are, briefly, that the Indian mints shall remain closed to the coinage of silver; that the currency of India be placed, or kept, on a gold basis; that the gold unit be the pound sterling; and that the rupee be taken at the value of 16 pence (15 rupees = £1), which is approximately its present exchange value. The commission evidently believes that this value can be maintained, if no new coinage of silver rupees is allowed.

The experiment of closing the Indian Mints has now been going on for six years, with effects which have not been favorable to the trade and industry of that country. It has been shown, however, that the limitation of the coins in circulation can effectually raise their value. At current prices of silver—27¾ pence in London—the bullion value of the rupee is 10.31 pence; but its exchange or circulating value is 16 pence, or 55.5 per cent. above the bullion value.

The adoption of this report and its recommendations, is now said to be very probable as soon as the opposition to it has quieted down. Its effect would be to fix the ratio between gold and silver in the Indian currency system at approximately 1:22 (1:21:93). As this definite settlement has no effect on the immediate demand for silver, it will not affect the price at present—and probably not hereafter. It does, however, put a limit to any possible rise in price, since the metal is not likely to rise above the point fixed by the ratio of 1:22; if permanently adopted by the chief silver using country in the world. It must be admitted that this leaves plenty of opportunity for an advance; since the ration of 1:22 is equivalent to a price of 93 cents an ounce for fine silver; which is more than 50 per cent. higher than current quotations. Beyond this setting of a limit, which at present does not even approximate to actual or probable conditions, the report has done nothing; and

this is shown by the statement made above, that its publication had no effect whatever on the immediate market.

Any improvement in that market is more likely to come from an increase in the industrial demand for silver than from any currency changes. It is such a demand which has raised the price by over 1.5 cents this year as compared with last. The world is just now prosperous almost everywhere; it is making money and buying silverware for the household, silver ornaments and using silver for decorative work to an unprecedented extent. This may continue for a year or two yet; and producers will do well to cultivate the industrial demand as much as possible. The effort should be to extend the use of the white metal in any way possible, and thus to increase the demand; which may, at no distant day, so far exceed the supply as to cause still further advances.

NEW PUBLICATIONS.

"The Mineral Industry; Its Statistics, Technology and Trade, in the United States and other Countries, to the end of 1898." Edited by R. P. Bothwell. Vol. VII. New York and London: The Scientific Publishing Co. Cloth, large 8vo.; illustrated; pages, 940. Price, $5.

The volume just issued is the seventh in the series, the first, which was published in 1893, containing the statistics for 1892 and for preceding years, in most cases going back to the inception of the industrry under consideration. Volume VII. now brings the record down to the close of 1898, not merely in the way of statistics, but also reviewing technical progress and industrial conditions.

Most of our readers are already familiar with the scope and purpose of "The Mineral Industry," but a word or two of explanation may render more convenient the use of this last volume in connection with its predecessors. As the field to be covered is so immense, it was manifestly impossible to enter every year into as much detail on each and every branch of it as would be desired, and still keep the several volumes within reasonable size. As it is, each contains from 800 to 900 closely printed pages, with no padding, with much evident condensation, and the employment of all possible typographical devices for saving space. So far as the "business" features of the industry (that is, the statistics of production, values, markets, trade conditions, movement of products, etc.) are concerned, each volume is satisfactorily complete in itself. Further than this, whenever noteworthy changes in the technical aspect have occurred, such as improvements in metallurgical or chemical processes, advanced mining methods, etc., these have been chronicled promptly, so that anyone who has followed the successive publications has had a comprehensive current review of the whole ground. But when it came to the detailed technological treatment of single sub-topics, each of which required considerable space for adequate discussion, these were taken up, as occasion and space permitted, a few in each volume, in such an exhaustive manner that where no important advances were made in subsequent years, a comparatively short notice would suffice in succeeding volumes. Many of these monographs are entitled to rank as classics, either because more practical, thorough and modern than other treatises, or because pre-empting ground not before entered upon, so that if they had been published separately they would stand with or above the best reference and text-books. A good many of them, indeed, describe important subjects which are not touched upon in any other modern publication. Thus, while each volume has been complete in itself, it has supplemented, but in no sense repeated, what had already been given, though it frequently required to be studied in connection with its predecessors.

A careful examination of the latest volume shows it to be more than up to the standard previously set, experience having indicated where improvements could be made or new features judiciously introduced. Some slight corrections have been made in back statistics where errors had crept in or more precise information had been obtained. The arrangement of subjects has been somewhat modified, and is now more logical. Where possible substances have been grouped according to the metallic bases or the more important element; thus under the chapter head of "Aluminum and Alum" there are included bauxite, corundum, emery, cryolite, metallic aluminum, alum, aluminum sulphate, etc. Such a grouping unavoidably brings together, in some cases substances having dissociated trade relations, and the system cannot always be carried out consistently, but it seems to be the most rational that could have been adopted. Otherwise the form of the book remains much as before, though the matter is entirely new and fresh.

In the preliminary notices of contributors, a number of whose portraits are given, many experts of the highest professional standing will be recognized, and in addition to names familiar as writers of authority on technical subjects, others appear new to the literature of mining and its kindred arts—those of busy men who have been induced as a matter of public spirit to spare time or do a little overwork in order to communicate the results of their practice or research.

The introductory chapter is a general summary of the production statistics. A glance at the text and tables gives an impressive view of not only the magnitude but also the wide variety of the mineral products of the United States. Thus in the summary table there are no less than 16 metals listed and 86 non-metallic substances. If we except tin there is no important metal missing, while in the production of some of them the United States is in the lead; and in the long list of non-metallic products the omissions are insignificant in comparison with the output considered as a whole.

The chapter on aluminum and alum is very complete. The substances grouped under the caption have already been indicated. Besides the current review of the production and trade conditions there are several special papers, of which that by J. G. Clemmer on the manufacture of aluminum sulphate is especially noteworthy.

A paper by H. A. Frasch on the recovery of ammonia and ammonium sulphate from gas liquor appears in the next chapter. Mr. Frasch not only describes the existing practice very clearly and thoroughly, but offers valuable practical suggestions as to improvements and economics.

As to antimony, arsenic, asbestos, barytes, bismuth, borax, bromine and carborundum, little new is to be said, so that the sections referring to them are comparatively brief. The progress in the technology of calcium carbide, however, is described with considerable detail. Under the next caption of "Asphaltum" we find a very complete account by H. A. Frasch of the many minerals belonging to that group, special attention being given to the high grades of "glance pitch," their occurrence, properties, production and uses. Following the statistics of Portland natural, hydraulic and slag cement comes an important contribution by F. H. Lewis on the hydraulic cement industry, which in connection with the papers in Volumes V. and VI. virtually exhaust the subject. Chrome ore and chromium are discussed in a comparatively short chapter, the main features of which are notices of new metallurgical methods.

Probably one of the most embarrassing subjects to be adequately treated in a book of this kind is that relating to the many substances coming under the head of "clay." The varieties of clay range all the way from that used in making common building brick, face brick, fire brick, terra cotta, other clay building material and sewer pipe and drain tile, stoneware, etc., up to ornamental tiles and fine chinaware, and as the occurrence of the ordinary grades are so numerous and their distribution so wide, while the values of the finer grades are so variant, the collection of statistics is a difficult task; yet we apprehend that a higher degree of success would have been disproportionately costly. This clay chapter in the present volume is an unusually good one. It includes special contributions by C. L. Whittle, on the clay industry of Massachusetts; by Chas. Ferry, on the principles of fire-brick manufacture; by H. F. Bain, on the manufacture and use of paving brick in the middle West; and by T. C. Hopkins, on kaolin, its occurrence, technology and trade.

To coal and coke, as the fundamental mineral products, are devoted 41 pages. The statistics seem to be very complete and carefully compiled, and the trade is critically reviewed. W. S. Gresley's monograph on coal mining methods and their economic bearing is a remarkably practical contribution, well illustrated with examples of the best recent practice, and suggestions as to broad lines of policy in opening and working collieries. Another paper is on the occurrence and utilization of peat, by E. A. Sjostedt. The coals of the Canadian Northwest and the Rocky Mountain Region are well described by Dr. G. M. Dawson, Director of the Canadian Geological Survey.

For many years copper has been an exceptionally interesting metal from several points of view, owing to its rapid increase in production, to its high utility in the arts and the important metallurgical progress in obtaining it. Copper is therefore accorded a comparatively long chapter. Following a comprehensive review of the statistics, markets, and current events in this and other countries, there is a section devoted to the general progress in the metallurgy of copper, describing new methods, new furnaces and various metallurgical practice, and a very painstaking and critical essay on the electrolysis and refining of copper by Edward Keller, which is in certain respects the best treatise on this special subject yet published. A valuable feature of Mr. Keller's work is the system of close analytical determinations at each stage of the processes described, so that exact results are known and checks provided, a matter hitherto slighted not only in the books, but too often in practice.

T. C. Hopkins discusses the occurrence, mining and uses of feldspar in the succeeding chapter. Next come reviews of the fluorspar, fuller's earth and garnet industries, as to which there is little novelty. A paper by Leopold Claremont on the identification of gems gives practical directions for their determination, from the point of view of the gem expert, and brings out a number of special tests not usual or generally familiar in mineralogical work. The part relating to specific gravity determination and the preparation of heavy solutions is particularly useful.

Of all the metals and minerals treated in this volume, gold and silver will probably be of interest to more readers than any other. With this in view the editor has allowed for it so many pages that they would by themselves form a large book. Considerable space is given to a review of the statistics and existing conditions in all parts of the world; but the feature which will command most attention among professional readers and students is the admirably prepared series of metallurgical papers. Among these we note Mr. W. R. Ingalls' review of the progress in the metallurgy of gold and silver, which gives a broad view of the whole field and details in such directions as do not fall more particularly within the scope of other contributions, as for example that by Prof. R. H. Richards on gold milling and that by Ottokar Hofmann on the hydrometallurgy of silver. The latter monograph is an admirable example of what such a paper should be. It is a model of thoroughness and critical consideration of all the factors in the several lixiviation processes for silver ores, and will be the standard manual in its specialty. Innovations in the cyanide and chlorination processes for gold ores and the amalgamation of silver ores are treated fully in Mr. Ingalls' paper. E. D. Levat, the well known French expert, contributes a paper on the gold-fields of French Guiana, which contains useful pointers for intending prospectors or operators in that and neighboring countries.

There appears to be nothing especially new in the graphite industry, which also is true as to gypsum; but G. P. Grimsley's article on the technology of the latter, or rather of plaster manufacture, is worthy of note.

Statistics of the iron and steel trades are given fully, while Prof. H. M. Howe contributes a long review of metallurgical progress, which deals with the subject in a critical and analytical manner, in the author's best and well appreciated style; wherefore "The Mineral Industry," Volume VII., is highly important to iron and steel metallurgists for this alone, if for nothing else.

Under lead we find papers by H. O. Hofman on recent smelting improvements, with very numerous references to current technical literature, which can be used as a bibliography by the student desirous of going into the subject more deeply; desilverization methods are also discussed in Prof. Hofman's essay; then there is an up-to-date description, by L. S. Austin, of the present practice in silver-lead smelting at Denver and Pueblo, and an account of progress in white lead manufacture.

Although confined to a limited field, the essay by C. E. Siebenthal on the Bedford oolitic limestones is commendable in point of arrangement and conciseness. "Lime Burning," a matter which has received too little scientific attention, is discussed by H. A. Frasch, who brings out some suggestive points, his paper being well illustrated with dimensioned drawings of various kilns.

The manufacture of acid phosphate of lime is described by P. S. Gilchrist in a thoroughly practical and scientific paper which will prove serviceable to those engaged in that industry. A little farther along in the volume we note a very clear and compact article by R. B. Symington on the present practice in quicksilver metallurgy in California, which supplements the elaborate articles on the practice in foreign works given in previous volumes of "The Mineral Industry." Our California practice has undergone considerable changes of late, thus rendering the admirably treatises of Prof. S. B. Christy and others not exactly out of date, but rather in need of supplementing.

In the chapter on soda and sodium considerable space is given to the technology of the various industries here grouped. Thus we find sections devoted to electrolytic methods for making alkali, production of metallic sodium, and analytical methods. There are other sections relating to sodium nitrate, carbonate and sulphate; and S. A. Knapp contributes a description of the occurrence and recovery of sodium carbonate in the Great Basin.

Zinc has been allotted rather more space than in previous volumes, perhaps because of the recent activity in that metal, the rapid increase in production and the large number of new plants and additions which have lately been or are being installed or are projected. This chapter is the work of W. R. Ingalls, as is also much of the unsigned matter, and to his painstaking efforts and discriminating supervision as assistant editor, the excellence of the whole book must be largely attributed.

The longest as well as one of the best papers, as a record of present practice, is that of F. J. Falding on the manfuacture of chamber sulphuric acid, which goes into the minutiae of the subject in a way that must appeal strongly to the practical acid maker, especially in view of the actual working drawings by which it is accomplished. This paper, in connection with that by Mr. Gilchrist, previously referred to, make the book of unique value to all who are engaged in the manufacture of fertilizers. It is impossible, without unduly extending this review, to more than mention the valuable contributions of Prof. R. H. Richards on the progress in ore dressing in 1898, and of A. Sauveur on the attractive topic of metallography.

Among many other features of the book which can be only catalogued here are the chapters on magnesium and magnesite, manganese, mica, molybdenum, monazite, nickel and cobalt, ocher and oxide of iron pigment, petroleum, platinum and iridium, potash and potassium, the rare elements, salt, silica, talc and soapstone, tin, tungsten, etc. There are also full reports of the mining stock exchanges in 1898, compilations of the mineral statistics of foreign countries, and of the United States imports and exports of metals, minerals, etc.

As already indicated, this seventh volume of "The Mineral Industry" is fully up to the high mark already attained; indeed, it will very likely be accepted as the best of the series. At all events it, in connection with its companion volumes, will be the acknowledged standard authority in the particular field occupied. W. A.

BOOKS RECEIVED.

In sending books for notice, will publishers, for their own sake and for that of book buyers, give the retail price? These notices do not supersede review on another page of the Journal.

"American Society of Civil Engineers; Transactions." Volume XL., December, 1898; Volume XLI., June, 1899. New York; published for the Society. Pages, 588 and 656; illustrated.

Geological Survey of Canada. "Report on the Surface Geology and Auriferous Deposits of Southeastern Quebec." By R. Chalmers. Ottawa, Canada; published by the Survey. Pages, 160; with maps and illustrations.

"Statistische Zusammenstellungen ueber Blei, Kupfer, Zink, Zinn, Silber, Nickel, Aluminum und Quicksilber." Sixth year. Prepared by the Metallgesellschaft and Metallurgischen Gesellschaft, A.-G. Frankfurt-am-Main, Germany; published by the Metallgesellschaft.

CORRESPONDENCE.

We invite correspondence upon matters of interest to the industries of mining and metallurgy. Communications should invariably be accompanied with the name and address of the writer. Initials will only be published when so requested.
Letter should be addressed to the MANAGING EDITOR.
We do not hold ourselves responsible for the opinions expressed by correspondents

The Consumption of Copper in Europe.

Sir—In your issue of July 8th, 1899, page 31, you state that according to reports of authorities, the high prices of copper have reduced the consumption of copper in Europe, especially in France and Germany. This is not quite correct. According to best authorities, and according to statistics, the decrease in consumption of copper during the first six months of this year, compared to the same period of 1898, has been in England almost 35 per cent.; in France about 12 per cent., and in Germany about 7 to 8 per cent. As far as Germany is concerned, according to observations, there is no decrease in consumption at all, although statistics do show an apparently less consumption of about 7 to 8 per cent. But what is shown in the statistics is, that on account of the very high prices and the belief or fear that prices may break any day, and assuredly will break some day, no refinery and no works will carry any stock, and almost everywhere purchases are made from hand to mouth. This policy of "no stocks on hand" easily accounts for the difference, about 7 to 8 per cent., and, in fact, consumption may this year even be somewhat larger than in 1898, since all works using copper are fully employed with orders, and some have made considerable enlargements. Electrical street railroads, electrical vicinal roads are being built now in Germany everywhere, and electric companies have yet considerable contracts on hand for building such roads; also the telephone system is continually enlarged, and cities and works are more and more lighted by electricity. In fact, so many contracts are out that consumption cannot decrease and may even increase for some time to come. I am selling copper continually, and I know what is being done.

H. E. Bandell.

Frankfurt-am-Main, July 20, 1899.

Missouri-Kansas Mining Methods and the Leasing System.

Sir—There has been a great deal of criticism of the methods employed in the Missouri-Kansas zinc mines, and particularly of the leasing system as practiced there and elsewhere. Numerous articles have been published condemning this system as most wasteful of ore and damaging to the ground. Those who argue against it contend that lessees can afford to mine only the high-grade ore; that they do as little dead-work and timbering as possible, usually preferring pillars to timbers, and when the rich pockets are gouged out they rob the pillars, permitting the stopes to cave and the low-grade ore is buried and lost to the owner of the property. On the other hand, if the owner had operated the mine he could have preserved the stopes by proper timbering, leaving the low-grade ore accessible to be mined and concentrated, or to await lower treatment charges, which may be obtained in the future. This is a very strong point, and one worthy of consideration, but it pre-supposes that the property in question contains large bodies of ore sufficiently rich to be profitable to the lessee. This may or may not be the case. If the lessee should discover a body of ore of too low a grade to be profitable to him, the owner may reap the benefit of his discovery by being able, by more economical methods of mining or by concentrating, to mine the ore at a profit.

But few individual owners of undeveloped property have sufficient capital to develop their ground; consequently they must put it in a stock company, sell it at a much lower figure than they think it is worth or depend upon lessees to develop it for them. By a combination of these methods the Cripple Creek District was developed and some of its best mines are indebted to the lessee for their existence.

The abandoned workings of some of the large mines of Aspen are laid in blocks, varying in size, but usually extending from level to level, and operated by lessees who pay a graded royalty. A nominal charge is made by the companies for hoisting and transportation (through tunnels). This system has proved profitable to both the companies and the lessees. When working for himself, a miner will work the narrow streaks of ore more carefully and will work in more dangerous places than when working for someone else. He will also work for less than wages in hopes of making a strike or for the purpose of getting his credit extended at the grocer's.

At present there are 50 blocks in the Durant Mine being worked by lessees, some of whom have employed as many as 20 men. A large proportion of the population of Aspen is supported in this manner.

The Missouri and Kansas zinc mines have been developed almost entirely by lessees. The editorial in your issue of July 15th in regard to this district is the only statement I have seen published which sets forth the conditions as they actually exist, and contains advice which investors will do well to consider, especially those who are sinking large shafts to "endeavor to prove or disprove theories in regard to the lower runs of ore."

In 1887-1888 Joplin had a boom and a great many people rushed in and purchased lands and leases. There were some from Colorado who were going to "show the farmers how to mine"; there were others from Pennsylvania where they sink shafts "as big as a mule" (or the mule couldn't get down); and there were those from England who brought their "experts" and machinery with them. Some of these are not there now; they have returned to their "old stamping grounds"—they understand them better. But the "farmers" are still there collecting royalties and waiting for someone else to "show me." They have not had long to wait.

Many of the methods employed in the Joplin District seem crude to those who are accustomed to more refined and more economical appliances, but the man who best adapts his methods to his conditions has been most successful in the Joplin and other districts. There are those who take a great deal of pride in having the "biggest, deepest and best equipped shaft in the district"—there are others who prefer dividends.

It is true that there is room for improvement in the methods in use in the Missouri-Kansas mines; some have been made; some are being made, and others will be made when conditions justify them. Whether or not the Missouri & Kansas Zinc Miners' Association will succeed in bringing about these conditions remains to be seen; until then there are improvements which should not be made. J. B. Guinn.

Aspen, Colo., July 22, 1899.

COAL IN SIBERIA.—The first coal mine in the Government of Irkutsk, in Siberia, has commenced working, at a distance of some 130 miles west from the town of Tscheremkowo. The deposits were already examined, at the instance of the engineer who located the Siberia Railroad, as far back as 1894, and the report was favorable. The quality is fair, and the coal has been found suitable for locomotive fuel.

UTILIZING COKE BREEZE.—A method of utilizing the breeze produced in the gas works at Cologne for steam-raising purposes is described in the "Journal fur Gasbeleuchtung." The furnace is that known as Wiedenbruck & Wilm's, and uses forced draft. The grate consists of hollow bars, to the interior of which air under pressure is forced by a steam injector through a chamber which communicates with all the bars. The air passes along a passage near the upper surface of each bar, and is thus warmed; it then issues from holes, inclined upwards, in a lower passage, and is thus spread uniformly over the grate area. The air keeps the bars cool. In one trial, extending over 24 hours, with a boiler having 200.45 square meters heating surface, and a grate area of 4.05 square meters, 5.4 kilos. of water were evaporated per kilo. of breeze burnt. The breeze contained 20.34 per cent. of ash, and 10.96 per cent. of water. About 10 per cent. of the steam was required for the injector.

THE COPPER DISTRICT OF INDEX, WASHINGTON.

Written for the Engineering and Mining Journal by W. H. MacKellar.

A new copper district around Mount Index, a few miles from the city of Seattle, in the State of Washington, has recently come into public notice. Index is situated on the Skykomish River, whose waters have already been electrically harnessed to furnish light and power for the new town and mines. The main line of the Great Northern Railroad passes directly through the district, so that with the construction of tramways and short wagon roads to the mines the question of shipping facilities will be immediately settled.

The first discoveries and location of claims at Index were made by two prospectors named Egbert, in June, 1897. In July they, together with John E. McManus of Seattle, organized the Sunset Copper Mining Company. Many other locations followed and to-day there are a dozen or more groups of mines in the district in various stages of development. Most of these properties have been worked to a point where it is safe to predict that they will become productive mines. Among these might be mentioned the Sunset, Rainbow, Copper Bell, Copper Queen, Trout Creek, Silver Creek, Wilbur, Independent and Troublesome mines.

The nature of the copper ore found in the Index country is chalcopyrite carrying from 10 to 25 per cent. copper, with some gold and silver. Some of the tunnels that have reached a greater depth have shown that the ore gives way partially to bornite, which assays high in copper.

The illustration given herewith shows a tramway under construction from the Sunset mines to the Skykomish River, and is only one instance of many similar undertakings that are under way in the new Index district. The second illustration is a view of the town of Index.

Seattle is much agitated over the opening of a great copper field just at her doors, and Index copper stocks are very active on the Mining Exchange. A second Butte in the State of Washington is the general prediction, which, of course, remains to be proved by future developments.

Building Tramway from Index Mine to Skyhomish River.

ASSAYING PLUMBAGO POTS FOR GOLD.

Written for the Engineering and Mining Journal by F. L. Carter.

A good many articles have been written on this subject, and I trust the few remarks I will make will be of service to some, who might be bothered with this problem. Those who have experimented with this subject know what surprisingly different results are often gotten, by using the scorification, and pot assay methods. The best assayers in this country, who were called in to settle the value of a lot of graphite crucibles, sometimes vary from each other by 40, 60 and, on one occasion, by 100 per cent. One of the causes for this great difference is, that when you place the scorifier containing the material in the red hot muffle the volatile zinc gives off very quickly, and mechanically carries the very fine gold with it. It is very difficult to get the plumbago to liquify and you generally get a dirty, unfused looking mass, and very poor results. After a good deal of experimenting I came to the conclusion that the following was the best method for the assay of such material:

Take from 6 to 7 grains of the finely powdered material. No more than this should be taken. If the stuff is poor in gold and this amount does not give a satisfactory gold bead, then combine the lead buttons from several assays. In a large scorifier place 40 grains of pure litharge after rubbing the bottom of the scorifier with silica. Then put in the plumbago and 4 grains of nitre. Mix this material together, then add 30 grains of litharge. On top of all place a covering of borax. The temperature of the muffle should be very low, and after remaining low for a few minutes should gradually be raised until white hot, when it will be found that the mass has fused beautifully. For the sake of accuracy three assays by scorification and three by the pot method should be done.

If the proper care is employed you will find the results agree very well, and not a difference of 30 per cent., as formerly happened.

THE APPLICATION OF LIQUEFIED CARBONIC ACID GAS TO UNDERGROUND FIRES.*

By George Spencer.

Several years ago, in studying the best methods of extinguishing gob-fires, the writer conceived the idea that if a gas in itself non-combustible and not supporting combustion could be obtained in any required quantity at a cheap rate, and this ideal gas be applied to any fire, it would prove to be a convenient way of extinguishing gob-fires. About the same time liquefied carbon dioxide came under his notice, consequently he decided to give it a trial, and the opportunity came sooner than he desired.

At a colliery with which the writer was connected a fire occurred in a heading, as the result of a fall of roof and sides on steam-pipes. The heading was built off with as little delay as possible, but notwithstanding all efforts to shut out the air, sufficient reached the seat of fire to keep it burning slowly. It was therefore decided to apply carbon dioxide, and for this purpose six cylinders of liquefied gas were connected in the manner described hereafter, and the contents discharged through a hole in one of the stoppings. From a distant stopping it was ascertained that the gas had diffused throughout the headings; from that time the heat abated, and no trouble whatever was subsequently experienced.

Liquefied carbon dioxide is supplied in drawn steel cylinders of three sizes, containing 20 lbs., 30 lbs. and 36 lbs. The gas is collected from the fermentation vats of breweries, and liquefied by means of pressure assisted by low temperature. The writer found the 30 lbs. size convenient for use, but the smaller size would be found more suitable for application in confined places. That size, when empty, weighs about 90 lbs., and measures 43 in. in height by 7 in. in diameter. The bottom is made concave, like an ordinary bottle, and the top is drawn to a neck, in which a screw-plug is fitted. A detached coupling is supplied to screw to the neck, by means of which the screw-plug is turned on or off, and the escape of gas regulated.

The pressure of gas in the cylinders varies according to the temperature. If, for instance, the cylinder and its contents have a temperature of 32° F., the corresponding pressure will be 509 lbs. per square inch; with 50°, the corresponding pressure is 664 lbs. per square inch; at 68°, 849 lbs.; and at 86°, 1,065 lbs.

One pound of the liquid will produce 8 cu. ft. of carbon dioxide at atmospheric pressure and temperature. The temperature of the escaping gas is, however, much below freezing-point, which is a great advantage in cooling down the heated mass after extinction. Any number of cylinders may be connected to a main pipe, to give a continuous flow or a large quantity. The writer has connected six cylinders at one time to a 2-in. pipe, with ¾-in. branches placed at intervals of 1 ft. The cylinders may be placed upright and connected to the ¾-in. branches by short pieces of flexible tube, and from the end of the main pipe a flexible tube of larger diameter may be carried to any desired point. By means of a small tap at each branch, the connection betwen the branch and the corresponding cylinder may be closed and another substituted as required. The whole series of cylinders, therefore, is under perfect con-

* Abstract of paper in "Transactions" Federated Institute of Mining Engineers.

trol, and a continuous flow of gas is readily maintained. The liquid carbon dioxide costs in England 2d. per lb., delivered in quantities of not less than 300 lbs., or 10 cylinders.

According to Dr. F. Clowes, air containing 15 per cent. of carbon dioxide will extinguish flame, and probably the same mixture will fail to support the combustion of the material usually met with in underground fires. To extinguish a fire (whether above or below ground), all that is necessary is to keep it immersed in a bath of an extinctive mixture of the above proportions, for a length of time sufficient to allow the mass to cool down. Such a mixture may be obtained by means of liquefied carbon dioxide at a cost of 1d. per cu. yd., exclusive of labor. It must, however, be borne in mind that in practice a large amount of carbon dioxide is given off from a burning mass, so that the figures quoted may be regarded as the maximum in estimating the cost of the process.

The rate of discharge of the gas varies greatly according to the surrounding temperature. During evaporation, intense cold is produced, and the valves are partly closed by the frozen gas. To increase the rate of discharge, the cylinders are sometimes laid on their side, and the liquid gas slowly discharged into the pipe. In some cases, a jet of steam may be directed upon the valve of the cylinder, so as to prevent the formation of solid carbon dioxide and to accelerate the discharge of the gas. The cylinder may also be immersed in a hot-water bath, but care should be taken not to apply too much heat to the cylinder itself, as the pressure increases rapidly with the rise of temperature.

In applying liquefied carbon dioxide to extinguish gob-fires, the writer considers that, where circumstances will permit, water would greatly assist in cooling down the heated mass, owing to its great specific heat, and if the situation be such that the water can be evaporated into steam.

It is not claimed that the method described can be successfully applied to all fires, but there are undoubtedly many cases which might be so treated. In case of fire on shipboard, the use of this gas would no doubt prove invaluable, as it could be quickly applied, and would not cause the same damage to cargoes as water.

PRECIPITATION OF GOLD FROM CYANIDE SOLUTION.*

By A. H. Hartley.

The author's notes covered the working of tailings and slimes at the Ulundi Mine, near Barberton, in the Transvaal. The ore for the most part was free milling and highly oxidized, containing a considerable quantity of copper. The tailings varied in value from 0.25 oz. to 0.4 oz. of gold per ton. After treatment they assayed from 16 grains to 36 grains. The residues did not vary according to the richness or poorness of the tailings, but according to the cleanness of same. Sometimes the pulp from the battery carried as much as 60 per cent. of slimes, and never less than 45 per cent. The tailings, however, were always leachable, and would have been clean had it not been for the presence of from 10 to 15 per cent. heavy clay or earth which would not float off with the slimes, and which was certainly detrimental to proper treatment.

Regarding precipitation, the rate of flow of solution through the boxes averaged from 1 to 1½ tons per cubic foot of zinc, in 24 hours, or from half an hour to three-quarters of an hour's contact.

The following were the strengths of leachings and assay results (results of gold assays stated per ton of 2,000 lbs.):

KCy.	Gold. Head of boxes.	Foot of boxes.
.05 per cent.	19 dwt.	trace.
	39 dwt.	4 grains.
	10 dwt.	trace.
.1 per cent.	10 dwt.	trace.
.14 per cent.	16 grains.	trace.

It was found that to continue the treatment which gave these leachings, as much as 4 lbs. of cyanide per ton of tailings would be consumed. By using weaker solutions the extraction of gold from tailings continued equally as good, whilst the cyanide consumption fell to 2 lbs. per ton. The solution assays were now as follows:

No. 1.

KCy.	Gold. Head of boxes.	Foot of boxes.
.02 per cent.	8 dwts.	trace.
.05 per cent.	13 dwts.	trace.
.04 per cent.	1 dwts.	trace.
.002 per cent.	2½ dwts.	trace.

No. 2.

Strength of leachings. KCy.	+ KCy at head of box.	Gold at foot of box.
.002 per cent.	.02 per cent.	trace.
.006 per cent.	.05 per cent.	6 grains.
.008 per cent.	.05 per cent.	trace

When commencing slimes treatment the increased quantity of solution necessitated the percentage of cyanide being again reduced, in order to keep the consumption within reasonable bounds, and to ensure good precipitation the zinc shavings were dipped in a solution of lead acetate. The precipitation continued as good as before, the average strength of solutions leaching from the tanks being .009 per cent. KCy, with the addition of KCy at head of boxes .02 per cent.

Gold at foot of boxes: traces. Without the addition of cyanide to head of boxes, the following were the solution assays:

KCy.	Gold. Head of boxes.	Foot of boxes.
.02 per cent.	1 dwt.	trace.
.007 per cent.	20 dwt.	trace.
.004 per cent.	2½ dwt.	trace.
.006 per cent.	.....	trace.
.009 per cent.	.....	trace.

and so on with little or no variation.

The consumption of cyanide now figured at ½ lb. per ton of ore, with as good results as when 4 lbs. per ton were consumed.

It will be seen from the foregoing figures that the precipitation was as good without the addition of cyanide at the head of the boxes as it was with it. When at times the zinc became "dead," that is, when no action could be observed in the boxes, the addition of a small quantity of cyanide, say 0.1 of a lb. per ton of solution, did not bring it into an active state, though the use of caustic soda or a much larger quantity of cyanide did. One objection made to the lead zinc couple method of precipitation at a former meeting was that aeration necessary for the effective solution of gold in tailings or slimes hindered precipitation in the boxes; this objection would not hold good under the circumstances quoted above, as, if these solutions were not aerated, few are; but this fact never hindered precipitation as the figures show.

In my opinion these unusually good precipitations from very weak solutions were caused by the presence of copper. If this be the case, copper-bearing ores would seem to present no difficulties whatever to the successful treatment of tailings and slimes by the usual zinc method of precipitation.

The resulting cyanide bullion for nine months' work at the Ulundi Mine averaged 850 fine, which was obtained by ordinary fluxings, without any special refining agencies, this would show that the copper dissolved from the ore and precipitated on the zinc did not materially affect the fineness of the bullion.

* Paper read before the Chemical and Metallurgical Society of South Africa.

LIGNITE IN GREECE.—Three lignite deposits are now being worked in Greece (as appears from a paper by C. Zengelis, of Athens, to the last International Applied Chemistry Congress), that of Koumi, with a yearly output of 15,000 tons, and those of Oropos and Aliocrion. In addition to these three deposits, however, coal seams are met with in many parts of Greece; and there is reason to believe that they will be turned to account so soon as the means of communication are improved. The Koumi and Oropos lignite is generally burnt with from 60 to 70 per cent. of coal.

BASIC STEEL IN RUSSIA.—The Russian steel works have usually employed the acid Bessemer or open-hearth process, the works in the Ourals generally possessing a supply of low-phosphorus ores, while the South Russian works have generally used the Krivoi-Rog ores, which are also low in phosphorus. The Briansk Company, however, is developing a deposit of ore at Kertsch, which is said to be very extensive. It is a low-grade ore running 40 to 45 per cent. iron and 1 to 1.5 per cent. phosphorous. It can be very chiefly mined, and the Briansk Company has decided to use this ore to make pig iron, and to use the Thomas-Gilchrist basic process for making steel. This will be the first introduction of the basic process on a large scale into Russia.

MINING AT THE PARIS EXPOSITION.—In addition to the exhiibts contained in the Palais des Mines, at the Paris Exhibition of next year there will be two realistic representations, or demonstrations, of the mining art, the underground mining exhibition and also the "monde souterrain" in the catacombs under the Trocadero and neighboring avenues. The entrance to the former is to be in the Rue de Madgebourg, where a shaft of 5 m. diameter will serve regular mine workings; and the second communication with the surface will be afforded by an adit, the mouth of which will be in the special exhibit organized by the Transvaal Chamber of Mines. The wrought-iron head gear is to be of the latest type, designed by the firm of Mallissard-Taza, surmounted by an elegant campanile; and a powerful four-cylinder winding engine from the Dubois Works, Anzin, will work cages of the latest type, designed by the Anzin Company's engineers, for twelve tubs on 4 decks. After the Exhibition all the plant is, states the "Echo des Mines," to be transferred to the Arenberg pit that the Anzin Company is putting down to the seams in the Foret de Wallers. At each lift 80 visitors will be let down to the underground roads, 700 m. long, laid out for winning coal by different methods; and from these roads will be turned off several working places where actual miners will show the methods of getting coal and various ores, all the details of the underground work being faithfully reproduced. Side by side with hand mining, power driven rock drills, coal cutters, etc., will be shown in operation; and the various methods of haulage, from the mine pony to the Marles electric locomotive, will be represented.

RECORDING INSTRUMENTS FOR COLLIERIES.—The regulations as to fiery mines in the French department of La Loire, which came into force on September 1st, 1895, obliged coalmasters to provide their fans with an indicator for recording the engine's speed, and also an apparatus for automatically registering pressures either above or below that of the atmosphere. Neither one nor the other of these instruments alone gives a complete indication; but they check each other and permit, by the comparison of their diagrams, of deciding whether, for instance, such or such an increase in the depression is due to greater speed of the engine or an accidental throttling of the mine. At the same time these two indications are not sufficient to inform the miner as to what is most important for him to know, the volume of air which traverses the workings in a given space of time; and to realize this it is sufficient to suppose that the return airway be suddenly closed by a fall, when the speed indicator will continue to recall the engine's speed—a constant speed even if the engine be provided with a governor—while the manometric recorder will continue to trace a water gauge differing but little from the usual mean, and this without any air passing into the workings. Penetrated by this idea, M. Murgue, general manager of the Montrambert Colliery, set about designing a volume recorder which, dealing with an essential feature of the ventilation, might alone be substituted for the two regular instruments; and, with the approval of the Government engineers, he has succeeded in producing the apparatus which has for the last two years been fitted to the five fans of the Montrambert Colliery. In a recent communication on this subject to the Saint-Etienne section of the Societe de l'Industrie Minerale M. Murgue stated that, in designing this instrument, he imposed upon himself the following conditions which appeared to him indispensable for accomplishing a serious and practical work: (1) Have at hand a source of motive power rather in excess of requirements, while giving the float ample dimensions; (2) reduce the positive resistance to a minimum, while limiting them to the friction of two points in two brackets easy to lubricate; (3) have a water joint wherever required, as it is the only one that can be depended upon; (4) diminish the oscillations by means of large masses of water.

THE IRON ORES OF THE POTSDAM FORMATION IN THE VALLEY OF VIRGINIA.*

By Charles Catlett.

The Blue Ridge consists, in ideal section, of the older crystalline rocks to the east, which are overlain by flags and conglomerates and sandstones, with heavily-bedded white quartzite ridges commonly marking its western border. Overlying this quartzite, and usually (by reason of their soft character) occurring only as foot-hills, are heavy beds of clay and partially decomposed shale. These are in turn overlain by the characteristic limestone of the Valley. The irregularities in thickness, folding and erosion bring the older rocks close to the valley, at some places, while at others they are separated from it by a very great expanse of the stratified formations.

All of the formations above referred to contain more or less iron ore, but only one will be considered in this connection. The heavy clays and shales referred to as overlying the quartzite are the repository of beds of iron ore, which, by their extent and persistency, mark this as one of the two greatest ore-bearing formations in Virginia. The ores of this formation are found over a distance of 150 miles or more, in a greater or less state of development, along a definite horizon. The soft nature of the enclosing strata, and the absence of any distinctly marked foot or hanging-wall, have no doubt contributed largely to the irregularity of the bed from point to point, and often render exceedingly difficult the determination of its exact position and the problem of its practical development.

The question of the actual continuity of the deposits may never be definitely settled; for while at points there seems to be the strongest evidence in favor of a continuous bed, the great irregularities and the softness of the enclosing strata do not permit the presentation of conclusive proofs. The most striking evidence of continuity with which the writer is familiar is the result of a great many bore-holes, extending over a distance of about 6 miles. These holes were located with special reference to intersecting the strata at points where they had not been disturbed; and in all cases the bed of ore, having approximately the same character and underlain by uniformly similar material, was found a short distance above the Potsdam sandstone.

At times the ores become highly manganiferous. Deposits of high-grade manganese are also found in this formation, and are at times closely associated with the iron ore. In some places the manganese ore seems to exclude the iron ore.

The very great extent of territory over which these ores are found, and the fact that they are at certain points developed by extensive workings, give abundant evidence as to the very large amount of them which may in time become available. The irregularities above referred to must, however, be borne in mind, as well as the difficulties which may at times attend prospecting work, but do not detract from the very large amount of ore which will ultimately be derived from these measures.

There are few mines of any extent based upon these ores from Roanoke northward. The works of the old charcoal iron makers are found extending throughout this district. They only used the best ore, as the amount required was small. Such ore was always of high metallic contents. The comparatively small development which has taken place since the advent of rail transportation in 1882 may be represented to-day by three or four mines near Roanoke; the Mine Bank, Black Rock Mine and Mary Creek Mine near Vesuvius, Va.; the mines of the Buena Vista Company, at Buena Vista, and the Shenandoah Furnace Company's mines. There are numerous smaller operations, started by farmers and local owners without capital or equipment, and discontinued whenever the demand for ore falls off. The most celebrated operations near Roanoke are the Rorer Mine, just south of the city; the Upton Mine of the Crozer Company, about 12 miles east of the city; and mines adjoining these, known as the Lynchburg mines. The Crozer Mine consists entirely of two open cuts of great magnitude, in which the indication of the displaced and broken division of the vein is very apparent. While there is a great deal of good ore, much of it is lean and there is a very large amount of dead material handled, which, necessarily, more or less contaminates the ore. One of the mines near Roanoke averages 42 per cent. iron; another, 45 per cent. The general opinion of those using the ores from the mines near Roanoke is, that as mined and handled, they will not average over 42 or 43 per cent.

Comparing returns from a number of mines, it is not safe to assume that the ores of these measures in large quantities, and under the ordinary method of mining and washing, will run higher in iron than between 42 and 43 per cent. The chemists at all the furnaces and mines agree that these ores could be improved by better picking, by jigging, and by excluding well-recognized lean ore, which, under present conditions of operating, the miner cannot afford to throw away. But it is difficult to say how much the ore could be improved; and it is wisest not to assume that the natural ore at any point will be better than at the few points where it is at present developed and worked; although, in the large territory covered, it is quite possible that this may prove to be the case.

Some jig-tests have been made, and from this and other information it is believed that it will be possible to concentrate these ores to 45 or 46 per cent. It may be possible to do better.

The silica in the ore occurs almost entirely combined, in silicates representing all grades from pure clay up to a clayey iron ore. Some analyses show a large proportion of silicate of alumina.

The phosphorus in the ores near Roanoke runs high, varying from 0.60 to 0.90 per cent. In the mines farther north the amount seems to be very much less. The ore from the mines near Vesuvius varies as a whole between 0.20 and 0.40 per cent., but considerable quantities of ore can often be found quite low in phosphorus. The manager of the Shenandoah Iron Works reports that phosphorus in the ore varies between 0.20 and 0.25 per cent.

TOWN OF INDEX, WASNINGTON.

The cost of mining must vary greatly from time to time. At times large masses of ore are encountered which can be mined with great cheapness, while at other times the occurrence of irregularities and the necessity for moving large amounts of dead material rapidly increase the cost. It is not probable that the cost can be materially reduced below the figures obtaining at the existing mines.

Considering all the facts, $1 per ton of concentrated ore is a safe estimate of cost when operating with sufficient capital to permit of economical work.

The largest amount ever taken from a single one of the operations was about 400 tons per day. Apparently the irregularities from point to point have prevented arrangements at any single mine for handling a very large output. As it often happens that a single local thickening or well-developed occurrence of the ore (colloquially known as a "Bank") can be exploited very cheaply, it is conceivable that the aggregate of a number of such works might amount to a large daily output. At times these deposits swell out to a thickness of 50 to 100 ft. or more. With regard to their daily capacity, it may be observed that the two open cuts of the Crozer mines have yielded between 600,000 and 700,000 tons of ore; and it is believed that about the same amount has been produced from the Fox Mountain Mine of the Shenandoah Furnace Company.

In these ores the impurity consists often of a tough clay, requiring a good deal of water, and making it difficult to wash the ore thoroughly. This and the fact that water is often scarce, makes the washing often inadequate. There could be, therefore, a decided improvement in this respect.

Owing to the fact that these ores, as developed near Roanoke, carry a good deal more manganese and something more of phosphorus than is desired, all the furnaces use other ores as mixers. As regards the consumption of coke, the furnace-men all agree that this ore reduces with remarkable readiness almost as soon as it enters the top of the furnace. At the same time the coke consumption is not remarkably low. There are no furnaces working entirely on ores from these measures. Consumption on mixed ores with furnace burdened for mill-

* Abstract of paper read before the American Institute of Mining Engineers at the New York meeting, February, 1899.

iron, and ore averaging 49 per cent., has been reported as low as 2,020 lbs. coke to 2,260 lbs. iron. From another furnace it is reported that with mixture running from 41 to 42 per cent. of iron, and burdened for foundry iron, the coke consumption was 2,700 lbs. per ton of iron. The coke used is Pocahontas. It varies very greatly in physical properties. It is often of small size, and the occurrence of black ends and soft material, in quantity, is by no means uncommon. The coal is sold principally as a steam coal, and coke making has not received the best attention of the operators.

The methods used are in many cases peculiarly well adapted to the prevailing conditions. Steam shovels have never been used. Certainly at some points, owing to the soft and friable nature of the enclosing material, they could be used to advantage. They represent the only form of improvement which could be introduced with probability of success.

THE GOLD MINES OF THE GOLD COAST, AFRICA.*

To obtain a thorough idea of the value of the Gold Coast as a gold-producing area, it is necessary to go back to its early history. For centuries this vast territory (north and south of the great range of the Kong Mountains) poured into Europe millions of pounds worth of the precious metal, and coming down to Bosman's time, we find six distinct areas in and about the Gold Coast supplying the yellow ore. These were Denkira, including Wassau, Encasse, Juffer and Commendah Acanny, Akim, Ashanti, Adansi and lastly, Aowin. As the old Dutch traders were most assiduous in securing as large a supply as possible of the gold then produced, it may be fairly assumed that what Bosman says is correct. The Denkiras at this period were a very powerful race, possessed of vast treasures of gold, partly obtained from their own mines, and from plunder and commerce with the interior tribes. The best gold was found in or between particular hills, where the natives dug pits and separated it by washing from the earth thus obtained.

All this points to the fact that many of the present hills and mountains in the interior of the Gold Coast must form the sources from which these supplies were then obtained, and that in spite of the quantities that have been obtained in the past, there must still remain in the interior of the country stores of the precious metal waiting to be discovered and worked by European energy and enterprise.

In later times the known gold-bearing areas became reduced to three: Wassau, Akim and Ashanti, with its powerful rival, the Gamau Country, none of which have ever been properly developed, and which became practically forgotten after the opening up of California and Australia. After the lapse of many years attention is again being turned towards West Africa as a gold-producing area.

Axim was and has continued to be the gold port of the colony, situated as it is to the south of one of the best gold-producing countries, Wassau, where most of the present gold mines are situated, and many attempts at development are taking place. Tarkwa, the present center of the mining industry of the colony, is situated in Wassau, some 50 miles from the coast, traveling by bush and river. The Government railway shortly to be opened to Tarkwa from Sekondi shortens the distance to 40 miles.

The fact is that all the countries of the present day—Ashanti, Sefwi, Adansi, Denkira, Assin, Wassau and Ahanta—which form the western part of the Gold Coast, form one of the most promising of the gold-producing areas of the colony, lacking only transport and capital to place their wealth before the European market.

Since its first discovery by the Europeans, it has been roughly estimated that from £600,000,000 to £700,000,000 of gold have been produced from the Guinea Coast, and in its flourishing days the town of Elmina alone annually exported £3,000,000 worth of the precious metal. Early in the nineteenth century the export became reduced to slightly under £500,000 sterling, about 120,000 oz., and averaged this amount for nearly half a century. Early in the sixties this export fell to under 50,000 oz., constantly varying between that and the 120,000 oz. of the earlier part of the century. This became again reduced in the seventies and the eighties of the present century to an annual average of about £120,000 sterling, which is about the output at the present time.†

Generally speaking, gold deposits are stated to extend from the French boundary on the west to the Volta River in the east, a direct distance of some 240 geographical miles, and inland to a distance of about 100 miles. They may extend east of the Volta, but that they extend for more than 100 miles inland is positively asserted by a host of authorities. Mr. Macdonald, in his book, states that the country near the town of Obo in Qwahu, where the River Prah has its source, is honeycombed with native shafts, and when there early in 1897, he was offered £27 worth of gold dust by the natives in exchange for small English silver, which is much wanted in these interior provinces.

Very little, however, will be done in the way of mining in the Gold Coast, particularly in these interior provinces, until some comprehensive scheme of roads and transport has been devised. What development can be expected in a country where head-carriage forms the only means of transport, and it takes 10 days for a parcel of 60 lbs. weight to reach Kumasi from the coast, at a minimum cost of 12s. 6d. for carriage, a rate equal to nearly £25 for a ton? Moreover, and more important still, under existing circumstances, on arrival on the coast, everything is transferred to a surf boat for landing, and more often than not the goods are landed in the last breaker on the shore instead of upon dry land. Much damage and loss is the result, in addition to a great waste of time, which to a white man means loss of money.

Fortunately, however, the Government is now constructing a harbor and breakwater at Sekondi, along which vessels can very shortly moor and discharge their cargoes undisturbed by the long Atlantic swell. This also forms the terminus for the railway to Tarkwa, which will be opened within a few months.

The future of the Gold Coast lies in its commercial prosperity, and this can only be increased by greater attention to the mining capabilities of the colony, and the production of timber and rubber. Large areas in the mining districts of Wassau should be cleared of vegetation and hydrauliced for the gold they contain. This should produce enough gold to pay for the railways necessary for the transport of heavy machinery in order to work the reefs that would be laid bare by the process previously referred to.

It must also never be forgotten in considering the past history of the Gold Coast and its future prospects, that it is only since a very recent date that the Colony has been under settled English Government. It was not till 1872 that the Gold Coast Colony first began to assume its present form as a Crown Colony and Protectorate, and at that time practically only the coast line along the seashore was under English rule. Since that date the interior districts have been opened up, until, as a result of the last Ashanti War in 1895-1896, the British Protectorate now extends to the hinterland of the northern territories. The great importance, commercially speaking, of the extension of settled government into the interior can hardly be overrated. One practical result has ensued within recent years—the disappearance in great part of the foolish superstitions of the natives in the gold-bearing districts. Formerly the natives were afraid of the gold being worked by civilized people. They insisted that their fetish prohibited any white man, or, for the matter of that, any black man in white man's clothes, going near, or finding out, the real source of their native mines. Nor would they dig too deep for fear of the gold running away, and the result is that many extensive gold-fields of the colony remain undeveloped. Nowadays, and especially within the district of Wassau, the native opposition has not only disappeared, but the native chiefs themselves are co-operating with the native traders in the principal towns in inviting and assisting Europeans to open up and develop the gold deposits. Native skilled labor can also be obtained to work in the mines, and the recent development of the Tamsco Mine within the past 12 months entirely by native engineers with the aid of English capital provided by an English company, is the best proof of the change which has been brought about.

Much difference of opinion exists with regard to the general unhealthiness of this part of the world. That the country has been unhealthy for the continued residence of Europeans admits of no question, and that it will remain for ever so, more or less, while only a narrow strip of low-lying malarious coast line forms the country selected for the habitations of the white traders and officials compelled to reside there admits of little doubt. In the highlands of the interior, however, there is reason to believe that it will be possible for white men to live, under the conditions and with the precautions proper to a tropical climate.

Several companies are at present operating mines on the Coast. The Wassau Gold Mining Company has been at work for several years in the Wassau District, and in 1898 its mill worked 6,000 tons of ore with an average result of 1.4 oz. to the ton. The Taquah & Abosso Gold Mining Company has a 30-stamp mill, and since 1894 has worked 23,929 tons of ore with a yield of 19,703 oz. gold. There are several other companies, whose mines are still in the development stage.

In Akim and Ashanti a number of mining areas have been taken up, but none of the mines have yet reached the period of regular production.

* Abstract from London "Financial News" Supplement, July 10th, 1899.
†These estimates seem to be somewhat exaggerated, especially as to the period since 1890.

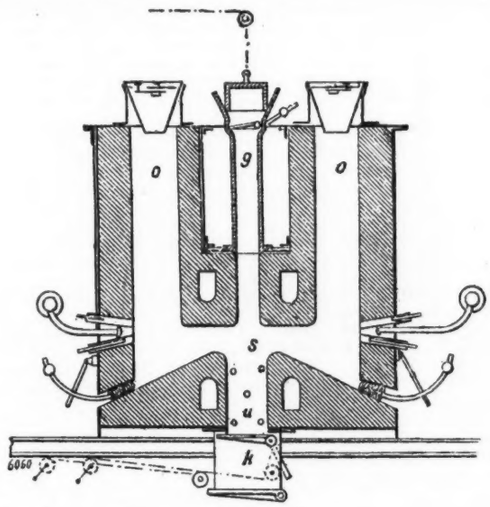
PETROLEUM IN NEW BRUNSWICK.—Indications of the existence of petroleum deposits in the province of New Brunswick are now being investigated, and an examination has been made by Prof. N. S. Shaler. It is thought that the Gaspe oil fields of Canada are a geological extension of the New Brunswick conditions. The most favorable oil indications in the district are shown in the valley of the Petitcodiac lying between two upheavals, and it is here that geological conditions point to the existence of the greatest oil basin or storage; though the Miramichi District may also prove an oil filed.

NEW FRENCH IRON WORKS.—The Pompey Iron Works in the east of France, on the banks of the Moselle, are in course of being enlarged by the addition of two new blast furnaces; and to gain space, which is greatly needed, it has been decided to throw an Otto-Pohlig wire tramway across the river for removing the existing slag dump at the rate of 400 tons daily, and subsequently keeping the works clear. This hitherto waste product is now granulated into gravel. The putting up of the wire tramway, which will be 170 m. long, has been entrusted to the Maison Mouraille, which also has in hand a wire tramway 9 km. long for the Canigou mines.

NOVELTIES IN TRANSMISSION LINE CONSTRUCTION.—The 31-mile line of the Kootenay-Rossland Transmission Company in British Columbia, says the "Electrical Engineer," consists of two parallel and duplicate pole lines, on one of which the cross arms are roofed over to prevent the wet snow from piling up on the cross arms around the insulators, which it does to a height of some 18 to 24 in. during seasons when there is no wind. The cross arms are two in number, the upper one some 8 ft. in length with 4 pins, and the lower shorter, holding two pins. The upper one is covered with a cedar roofing 24 in. wide, sloping slightly downwardly from the pole each way toward the ends of the cross arm. The lower, immediately below it, is roofed to a width of 16 in. During the past winter service was continued over both lines, even when the exposed line had from 10 to 12 in. of snow on the cross arms. If any leakage existed it was impossible to detect it, so that the roof appears to be quite an unnecessary precaution. Another peculiarity of the same line is the crossing of the Columbia River, which is in a single span 1,500 ft. in length. The wires are No. 000 bimetallic, maintaining a conductivity equal to that of the balance of the line, which is No. 0 copper. These spans are unsupported by strain cables, the total sag being some 52 ft. with the strain taken up by a number of ordinary porcelain insulators in a strain tower at each end of the crossing. The interaxial distance between the wires is only 6 ft., but no trouble has been experienced from swinging crosses or from breakage due to wet snow, which has at times adhered to the lines to a diameter of about 4 in.

A NEW CARBIDE FURNACE.

Dr. W. Borchers, the well known electro-metallurgist, has lately patented a form of furnace for high temperatures, which is especially intended for the manufacture of calcium carbide. A section of this furnace is shown in the accompanying engraving. In this device, air—or a mixture of oxygen and air—is admitted under pressure to one of two furnaces, and is burnt therein at a very high temperature with formation of carbonic oxide, and this hot gas then passes through the mixture to be smelted, to which it communicates part of its heat, and afterward through the other furnace. The action of the furnaces is periodically reversed, and it is claimed that the gas from one furnace, after having been cooled by the material to be smelted, increases the heat in the fuel of the other furnace, which said fuel may perhaps have been immediately before in active combination under an air or oxygen blast. The drawing shows the preferred form of such a furnace, o o being the fuel containers, and g the receptacle for the material to be smelted, which, after being fused in the chamber, s, accumulates at u and is removed periodically by the box, k.



BORCHERS' CARBIDE FURNACE.

THE LATEST GERMAN IRON WORKS.

The works of the Deutscher Kaiser Mining Company, at Bruckhausen, on the Rhine, constitute one of the most recent creations of the iron industry of the Rhine provinces and Westphalia. Construction was commenced in the year 1890. Originally the company occupied itself exclusively with coal mining, which industry still constitutes the foundation of its operations. The coal fields, which are 60 square kilometers in extent, yield at a moderate depth gas and bituminous coal in abundant quantities. For working the seam five pumping shafts and three winding shafts have been sunk, and the latter are connected by railway with the iron works at Bruckhausen, with the wharf on the Rhine at Alsum, and with the State Railway at Neumuhl and Duislaken. The production of coal amounts at the present time to 3,300 tons per working day; it will, however, in the course of a few years, reach the amount of 6,000 tons per diem. Unfortunately, the coal measures are situated underneath layers of loose crumbling rocks of great thickness, on which account the sinking of shafts is accompanied with difficulties of a most unusual nature, so that eight years were consumed in driving No. 2 shaft down to the coal, and the same operation required seven years at No. 3 shaft.

In the year 1890 the construction of the iron works was commenced by the erection of a large open-hearth steel and rolling plant. At the present time the former consists of seven Siemens-Martin basic furnaces, capable of producing about 11,000 tons of ingots per month.

In the year 1895 the difficulty with regard to the supply of coke was solved by the successful operation of sinking the double No. 3 shaft in close vicinity to the ironworks, and thereupon the construction of the blast furnace and the basic plant was begun. The plans provide for six blast furnaces, but at present there are only three working and another in course of erection. The others will be built as soon as the increased production of coking coal from the pit will warrant their construction.

The arrangement of the coal mines, coke ovens, and blast furnaces is probably the most economical of any yet devised as regards the labor required in handling the stock.

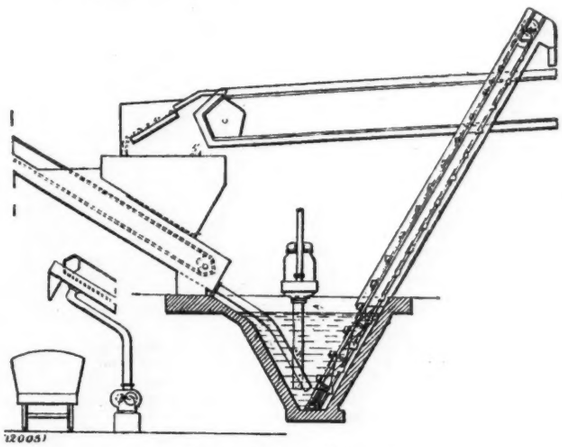
The washed coking coal of No. 3 shaft is conveyed by means of an endless-rope system of haulage to the coke ovens, which are situated on both sides of the axis of each set of two blast furnaces. At the present time there are 188 coke ovens working, and 68 in course of erection. The by-products obtained are tar, sulphate of ammonia and benzol. When the 256 ovens are completed the monthly output will be 30,000 tons of coke, 1,200 tons of tar, 400 tons of sulphate of ammonia, and 300 tons of benzol. The ovens are in their turn connected with the blast furnaces by an endless-rope system of haulage, delivering directly to the furnace hoists. The iron ore, which for the most part arrives by water, is discharged at the company's wharf on the Rhine at Alsum, and thence carried in the ore trucks upon three elevated tracks which run past the blast furnaces, where it is unloaded and hoisted into the furnaces. Eact blast furnace produces from 250 to 300 tons of basic pig per day, which, in a fluid state, is transferred to the mixer and thence into the converter. The furnaces, which are constructed with all the latest improvements, are 87 ft. high, with a diameter of 19 ft. 6 in., and the width of the hearth 12 ft. 5 in. Each blast furnace is furnished with five Cowper hot-blast stoves, of a diameter of 23 ft. and a height of 99 ft., and with two vertical compound twin blowing engines. These engines were described in a recent issue.

The basic steel plant consists of four converters, each of 15 tons capacity, and furnished with two powerful blowing engines. The present production amounts to 20,000 tons per month, which, however, with an increased output from the blast furnaces, can be further increased to a considerable extent. Adjoining these works, and in direct connection with the rolling mills, there is a very efficient blooming mill, the rolls of which are arranged so as to permit the rolling of rails, billets, medium-sized beams, etc., to be immediately effected. The rolling mills consist of six roll trains, with six powerful engines, and they are capable of rolling 30,000 tons of steel railway material, bar iron, etc., in a month.

The rolling mill shed is of extraordinarily large dimensions, covering an area of 44,430 square meters. The accessories, such as cranes, etc., are worked by electricity for the most part, and the current is obtained from a power station with three combined powerful engines of 500 horse-power, which derive their steam from the blast furnaces. In the vicinity of this power station there is a mill for pulverizing the basic slag; this machine likewise receives its steam from the blast furnaces.

IMPROVED COAL WASHER.

The accompanying sketch shows a device lately patented in England by C. Burnett. This is an apparatus to be used in connection with coal (especially small coal) washing, and has for object to regain the fine coal held in suspension by the effluent water, and to allow of the return of said water to the pumps in a comparatively clean condition, and also to dry the washed coal before it is conveyed into any desired receptacle before loading into trucks. The washed coal with the water is delivered by the coal washing apparatus into a hopper, and falls thence into a gutter or chamber having a perforated false bottom, and provided with an endless conveyor, the said gutter rising in a slanting direction with a discharge spout at that end for delivery into another hopper, adapted to receive the coal and which may be provided with perforations at or near the bottom for a final draining of the coal before it is delivered into a truck. The conveyor may be in the form of an endless chain band passing round a hexagon roller at each end, and provided with dams which clear the perforated false bottom of the gutter by say 2 in. or 3 in., the layer of coal thus left beneath forming a filter for the effluent water, and serving to retain much of the fine coal, the thus cleaned water being conveyed back to the pump to be recirculated in the washing apparatus. In order to prevent the small coal from choking up the gutter and impairing the filtration, one of the dams is made so deep as to reach closely to the false bottom, and one or more adjoining dams are of intermediate depths. The perforations in the false bottom may be in a part or in the whole length of the same. In order to dry the washed coal an exhaust fan is used at the discharge end of the gutter, the opening to the said fan being under the false bottom, and the lower end of the gutter connected with a water seal, the pressure in which is higher than the blast pressure.



BURNETT COAL WASHER.

WINDING ROPES.—For giving an idea of the results that may be obtained with the various descriptions of winding ropes, M. Charles Havrez has compiled a table of the total weight, weight per unit of length, and also cost, of round and flat steel wire ropes and flat Manila fibre ropes of uniform section, of section decreasing every 100 meters, and of uniformly decreasing section, for raising a load of 3.1 tons from the depth of 1,000 m. (546 fathoms) arriving at the following conclusions: (1.) Steel wire ropes, even round, of uniform section should be proscribed for such a depth; (2) the flat steel wire rope decreasing in section every 100 m. is 1½ times heavier than the round steel wire rope; and the manila rope of constantly decreasing section is nearly 3 times heavier than the round steel wire rope with section decreasing every 100 m.; (3) the round steel-wire rope of uniformly decreasing section is about 3½ times lighter, and also more economical than one of Manila fibre.

PETROLEUM ON RUSSIAN RAILROADS.

The use of petroleum as fuel for locomotive purposes on the Trans-Caucasian Railroad was first introduced on the local line between Baku and Balachany in 1880. The consumption amounted to 110,000 poods (1,800 tons), and the price paid was 4.2 kopeks per pood. In 1883, when the Baku-Tiflis line was opened, the quantity of fuel used increased very rapidly; in that year no less than 890,000 poods (14,800 tons) were consumed, and in 1889, 4,819,000 poods (80,000 tons). Since 1889, at the time when the railway was taken over by the Government, the quantity of fuel used considerably increased, and wood and coal previously consumed were displaced by petroleum. In 1889 the wood used for locomotives amounted to some 5,762 cubic sajean; in 1890 this had fallen to 288 cubic sajean; in 1895 to 585; in 1896 the quantity was only 5.27, and in 1897, 6.20 cubic sajean.

During the last five years residuals ("astatki") for locomotives have been used to the following extent: In 1894 the quantity was 6,160,000 poods (100,000 tons), the price being 13.30 kopeks per pood; 1895, 6,200,000 poods (103,000 tons), at a price of 5 kopeks; 1896, 6,400,000 poods (106,000 tons), at 7.25 kopeks; 1897, 8,000,000 poods (130,000 tons), at 8.10 kopeks; 1898, 8,705,000 poods (145,000 tons), at 9.2 kopeks per pood ($2.75 a ton).

This introduction of residuals as fuel has considerably reduced the expenditure of the line. At the present time the road uses liquid fuel not only in locomotives, but also in all the workshops and at all their pumping stations. In 1896 on the whole of the railroad lines of Russia, 62,600,020 poods of liquid fuel was used, and of this quantity the Trans-Caucasian consumed 12 per cent. The line represents between 2 to 2½ per cent. of the total railroad mileage of Russia. The Trans-Caucasian Railroad has now 61 tank storage places, with a total capacity of 2,154,350 poods. These vary in size from tanks holding 60,000 poods, at Baku, down to tanks of 1,000 poods at stations where there are pumping engines.

MINERAL PRODUCTION OF ONTARIO IN 1898.

We have received through the courtesy of the Mines Department a statement of the mineral production of the Province of Ontario for the year 1898.

The metallic production has for its most important item the nickel, which forms so important a portion of the world's supply, although its quantity is comparatively small. The copper was chiefly obtained in connection with the nickel from the mines of the Sudbury District. The gold came chiefly from the Rat Portage, Seine and Rainy River Districts. In addition to the iron ore used from Ontario mines, a considerable quantity of Lake Superior ore was used in the furnaces.

MINERAL PRODUCTION OF ONTARIO, 1898.

Product.	Quantity.	Value.	Employees.	Total wages paid.
Building stone, rubble etc.	.....	$750,000	1,250	$520,000
Cement, natural rock, barrels	91,528	74,222	85	23,784
Cement, Portland, barrels	153,348	302,096	220	104,350
Lime, bushels	2,620,000	308,000	548	127,000
Drain tile, number	22,668,000	225,000	2,622	456,000
Common brick, number	170,000,000	914,000		
Pressed brick and terra cotta, number	7,754,868	87,894	114	38,980
Sewer Pipe	.....	93,717	77	26,260
Pottery	.....	155 000	164	61,000
Petroleum, imperial gallons	26 978,977	.....	.....	.....
Illuminating oil imperial gallons	12,281,622	1,243,490		
Lubricating oil, imperial gallons	2,043,226	202,150		
Benzine and naphtha, imperial gallons	1,240,967	121.840	546	263,455
Gas and fuel oils and tar, imperial gallons	8,047,441	286,705		
Paraffin wax and candles, lbs.	2,616 086	116,349		
Natural gas	.....	301,600	85	31.457
Carbide of calcium, tons	574	34.440	30	12,544
Salt, tons	59,385	278,886	191	6 629
Gypsum, tons	3,000	4,000	15	2.000
Graphite, tons	300	6,000	10	1.800
Mica, tons	34	7,500	15	4,500
Metallic:				
Iron ore, tons	27,409	48,875	100	96,700
Pig iron, "	48.253	530,789	130	61,476
Nickel, "	2,283¾	514,220	637	315,501
Copper, "	4.186¾	268,080		
Gold, oz	16,261	275,078	580	290,919
Silver, oz	86,600	51,960	59	28,430
Totals	.....	$7,201,891	7,478	$2,456,785

Net tons of 2,000 lbs. are used.

The building stone and clay industries of the Province are of considerable importance, and the production reported shows that they were active during the year.

THE WESTINGHOUSE WORKS IN ENGLAND.

From our Special Correspondent.

A new departure of considerable interest in connection with American manufactures is to be found in the establishment at Manchester, England, of branch works of the Westinghouse Company of Pittsburg. For many years this company has had a considerable export business and its electrical machinery and its automatic brake have been well known in England, Europe and the old world generally. The brake patents are already provided for in Great Britain, so it is only the electrical business which is being taken in hand at present. A subsidiary company has been formed under English law called the British Westinghouse Electric and Manufacturing Company, Limited, with a capital of £1,500,000, divided into 200,000 preference shares of £5 each, bearing 6 per cent., and 50,000 ordinary shares of £10 each. The whole of the ordinary shares are taken by the parent American company in payment for its patents, good will, etc., while half of the preference share capital is being offered for public subscription to provide capital for acquiring land, building the works, etc., the remainder being reserved for future issue. A tract of land has been secured in Manchester, on the banks of the Ship Canal, where it is intended to construct the factories. The board of the English company is a practical one, for besides having Mr. Westinghouse and Mr. Banister as was to be expected, it has several gentlemen of influence and experience in England. For instance, there is Mr. Bryce, who used to be a director of the Naval Construction and Armaments Company, now verged in Vickers, Son & Maxim; Mr. Joseph Lawrence, who has proved his administrative abilities in the success of the English Linotype Company; Hon. R. C. Parsons, an engineer who comes of an eminent mechanical family, his brothers, the Earl of Rosse and Hon. Algernon Parsons, being equally well known as himself; while Lord Kelvin is appointed technical adviser. We have not the least doubt the adventure will turn out successfully, for there is a good executive and a demand for the productions. From an English investor's point of view it might have been advisable to offer some of the ordinary shares to the public, for it is not usual to offer only preference shares except in businesses that have been long established. As a rule when establishing a new business, which, in spite of its eminent American connection, the present company is practically doing, it is customary in England to offer both classes of shares, as there are many people who rightly consider that investors who put money in shares which are more or less speculative should have the opportunity given them of acquiring an interest in the big profits which may come in the future.

RECENT DECISIONS AFFECTING THE MINING INDUSTRY.

Specially Reported for the Engineering and Mining Journal.

RIGHTS WHERE ONE FAILS TO CARRY OUT MINING LEASE.—To entitle a lessor to recover substantial damages for failure to operate under a mining lease providing for a royalty on the coal mined as a consideration, the lessor must, in addition to the fact that merchantable coal existed on the land, show that it could have been mined at a profit, after deducting the royalty.—Colorado Fuel and Iron Company vs. Pryor (57 Pacific Reporter, 51); Supreme Court of Colorado.

RIGHTS WHERE ONE TAKES ANOTHER'S ORE INADVERTENTLY.—While one who willfully and intentionally takes ore from the mine of another is not entitled to deduction from the value of same for the labor he has expended in its extraction, etc., yet where the taking is inadvertent, and under an honest mistake as to the ownership of the land, only the value of the ore in its original place can be recovered.—Durant Mining Company vs. Percy Consolidated Mining Company (93 Federal Reporter, 166); Circuit Court of Appeals of the United States.

SALE OF SMELTING WORKS NOT SET ASIDE ON ACCOUNT OF SMALL PRICE.—The engineer in charge of the construction of a smelting-plant testified that it had cost $65,000; an expert testified that it could be duplicated for $25,000. In addition to the original cost $20,000 had been expended on improvements, but a part of the buildings and machinery were in bad repair, and the cost of materials and fall in the price of product made the plant unprofitable. The court held that purchasers of the plant at $9,500 had paid full value for same.—Patterson vs. Portland Smelting & Refining Works (56 Pacific Reporter, 408); Supreme Court of Oregon.

RIGHTS OF DIRECTORS WHO ARE CREDITORS.—Directors to whom a corporation is indebted may purchase the property of the company, when it is sold, for the purpose of paying its debts. Where stockholders confer on the directors the power of disposing of its property, the directors may delegate the performance of purely ministerial duties connected with the sale to the president and secretary, if the discretionary matters are reserved under the control of the directors. Where such property is so sold and purchased, the stockholders cannot insist that cash be paid, but the purchase money may be credited on the indebtedness.—Patterson vs. Portland Smelting & Refining Works (56 Pacific Reporter, 407); Supreme Court of Oregon.

LOCATION AND ACQUISITION OF CLAIMS.—Where the original discovery of a vein on which a mining location is based is included within the surface boundaries of a junior location, which goes to patent without protest from the owners of the prior location, but before such patent a new discovery has been made on the prior location without the boundaries of the junior location as patented, and within the surface boundaries of the prior location as originally located, and development work is begun and prosecuted in good faith by the owners of the prior location, their claim is valid, and holds as to all ground not included in the patent of the junior location, notwithstanding the loss of the orginal discovery.—Silver City Gold and Silver Mining Company vs. Lowry (57 Pacific Reporter, 11); Supreme Court of Utah.

DESCRIPTION AND CONVEYANCE OF MINING PROPERTY.—In the first part of a deed there were a bargain, sale and conveyance of the right to enter upon the land for mining purposes only, and to prospect and mine the same. Then followed a provision that the prospecting and mining should be done with as little damage as possible. It was then provided that "for the purposes aforesaid" a right of way was granted across the land, which was then described; and following the description without break or punctuation, were the words "together with the mines of gold therein contained." The court held that the last quoted clause was a part of the description, and not a grant of the mines. The deed also conveyed the right to prospect and mine the gold "if the grantee should discover any in quartz suitable for mining." This was held not be a condition subsequent. Also that this was not a mere license revocable at will of the grantor. It also extended to subsequent grantees, and the mere failure of the first grantee to exercise them did not extinguish the right to do so under the deed. And no presumption of abandonment could arise from the fact that similar rights were exercised by the grantor and his subsequent grantees.—Woodside vs. Ciceroni (93 Federal Reporter, 1); Circuit Court of Appeals of the United States.

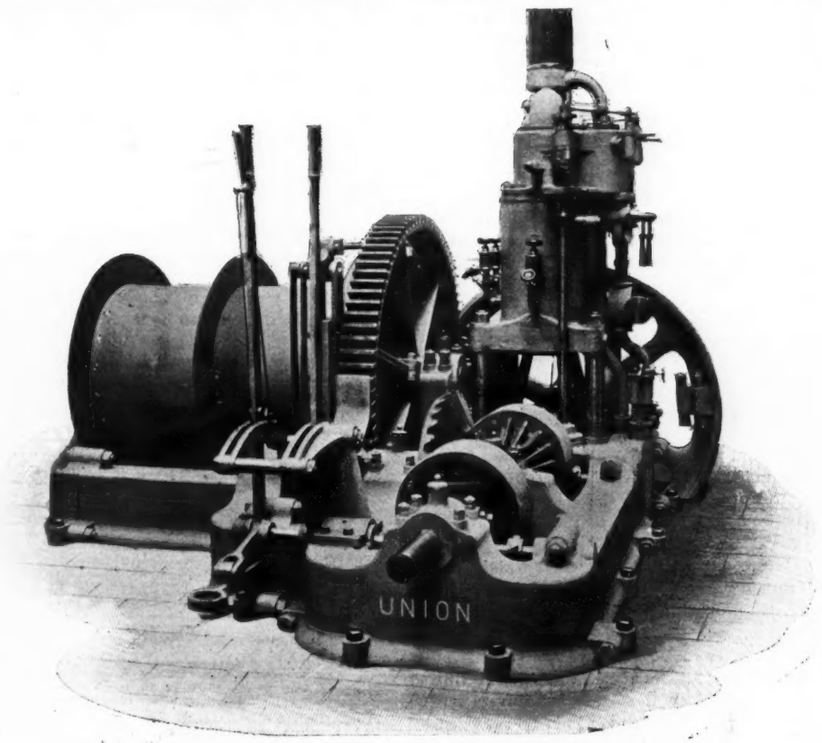
A GASOLINE HOISTING ENGINE.

The accompanying engraving illustrates the latest type of gasoline hoists. It shows an engine recently built by the Union Gas Engine Company, of San Francisco, Cal., for the Moctezuma Copper Company, to be used at Nacosari, Sonora, Mexico. In order to get a hoist of this size and power to the mine it was necessary to make it in sections, the weight of any section not to exceed 360 lbs.

The engine is of the double cylinder vertical type and has a very sensitive governor and also controller. This attachment, in conjunction with a double cylinder, enables the load to be hoisted very steadily, without any jerky motion. The drum is of the two-compartment type, so arranged as to be reversible. It is to be operated at a double-compartment shaft, lifting from one side, while lowering in the other, thus permitting continuous hoisting to be done—lowering is therefore done by power, not by brake, and the weights of cages are balanced.

The hoist is rated 25 H. P., and its capacity is 1½ tons raised 165 ft. per minute vertically. All levers are so situated as to enable the operator to have perfect control of the hoist without changing his position. The brake is both reliable and powerful, and with such leverage as to fully control the load without the operator being obliged to use any extra exertion.

This company has been very successful in the manufacture of engines for hoisting purposes. The Union Company is now making plans for a double drum hoist of 130 H. P., to be used sinking 1,000 ft., and another plant of about the same power, to be used at a shaft that is expected to go down 2,000 ft.



GASOLINE HOISTING ENGINE, NACOSARI, MEXICO.

A CHROME ORE MINE.

The Tweed Chrome Mine is about 2 miles northwest of Sylmar Station in Maryland, on the Philadelphia, Wilmington & Baltimore Railroad. The mine is on the property of Mansell Tweed, who also owns and operates the feldspar quarry about 200 yards from the chrome mine.

The ore is chromite in the form known as chrome sand, which occurs associated with silicious sand and gravel along a small water-course. The country rock is serpentine, which is impregnated with chromite and magnetite in many places through the district. Small accumulations of the chromite in the form of black sand may be seen in nearly all the gullies bordering the roadsides. At the Tweed Mine the deposit is worked to a depth of 4 or 5 ft.

The process of extracting the ore is primitive. The material is first loosened with a pick and then shoveled into a riddle held by another workman in a tub of water. By the constant agitation of this riddle the fine sand and the chrome ore, which is about the fineness of gunpowder, run through the meshes and sink to the bottom; part of the mud is floated off with the water and the coarse material is thrown out of the riddle from time to time. This operation is carried on until the tub becomes nearly full of sand and ore, when it is emptied and the process repeated until several tons of the mixed ore and sand have accumulated, when it is taken to a trough specially arranged for the purpose, where it is thoroughly washed and all the foreign ingredients separated. It is claimed that 8 or 10 men—the number at work in 1898—could wash about one ton of ore per day. They shipped about 100 tons in 1897 to Bye Brothers in Philadelphia; from there it is sent to Liverpool. It is shipped in oil barrels and pork barrels, each barrel holding about 1,250 lbs.

This mine is about 3 miles southeast of the famous Wood Chrome Mine, now abandoned, that at one time produced all the chromium in the world. There is another chrome mine near Chrome Post-Office, a few miles east of the Tweed Mine, but it was not in operation in 1898.

COKE FOR THE OURAL FURNACES.—The Russian Mines Department has sent an engineer to Siberia for setting the question at rest whether the Oural mines can be supplied with coke from that country, in accordance with the hope expressed at the last ironmasters' congress. Boreholes for ore in the south of the Oural District are being put down to a considerable extent; and it is reported by the "Echo des Mines" that many deposits have been proved, containing more than 60 per cent. of metallic iron. Deposits of manganese have also been found which, it is expected, will permit of ferro-manganese being produced on the spot.

CANALS IN ENGLAND.—The idea of widening the Birmingham & Worcester Canal so as to accommodate 150 to 300-ton barges is once more to the front in the commercial circles of Birmingham and South Staffordshire, says the London "Colliery Guardian." It is contended that by such a scheme—the cost of which would not be very enormous—a junction with the Severn might be effected below Worcester, whence there is a natural waterway to the port of Bristol. That such an enterprise would be a step in the right direction goes without saying, but it would not touch the root of the difficulty under which the heavier industries of Birmingham and the Black Country are laboring with regard to excessive carriage rates to the ports. The two ports which receive the largest share of the produce of the Midland iron and hardware district are Liverpool and London. Some ten years ago a survey was made of a ship canal between Birmingham and Liverpool, and it presented no serious engineering or financial difficulties. But the adverse circumstances of the Manchester Ship Canal at that time had a depressing effect upon the enterprise, and the promoters had not the courage to carry it to Parliament.

A YEAR'S WORK IN THE PATENT OFFICE.—The report of Mr. C. H. Duell, United States Commissioner of Patents, for the year ending June 30th, 1899, says that there were received in the fiscal year 35,352 applications for patents, 2,292 applications for designs, 91 applications for reissues, 1,610 caveats, 1,861 applications for trade-marks, 612 applications for labels and 112 applications for prints. There were 23,550 patents granted, including reissues and designs; 1,406 trade-marks, 372 labels and 76 prints were registered. The number of patents that expired was 16,670. The number of allowed applications which were by operation of law forfeited for non-payment of the final fees was 4,021. The total receipts of the office were $1,209,554, the total expenditures were $1,148,663, and the surplus of receipts over expenditures, being the amount turned into the Treasury, was $60,891.

On June 27th, 1898, every examiner had his new work within one month from date of filing and his amended work within 15 days of date. This is the first time since December, 1889, when the present form of weekly reports was adopted, that such a report has or could have been made.

QUESTIONS AND ANSWERS.

(Queries addressed to this department should relate to matters within the special province of this periodical, such as mining, metallurgy, chemistry, geology, mineralogy, machinery, supplies, etc. As it is manifestly impossible to devote space to all the questions and notes constantly received, preference will be given to topics which seem to be of interest to others besides the inquirer. We cannot here undertake to give professional advice on problems requiring special investigation and which should be obtained from a consulting expert. Nor can we undertake to give advice about mining companies or mining stocks. Brief replies to questions will be welcomed from correspondents. While names will not be published, all inquirers should send their names and addresses. Anonymous questions will not be answered. Preference will, of course, always be given to questions submitted by subscribers.—Editor E. & M. J.)

Clay and Rock Samples.—I send you in paper box two samples of clay which I think contain a large per cent. of aluminum or alum. The other is some kind of mineral which overlies the clay. This last is pronounced by some gold, while it looks to me very much like the phosphate of Tennessee. The clay, in my opinion, is either fuller's earth or clay carrying a good per cent. of aluminum. Will you kindly give me your opinion?—E. D. M.

Answer.—The samples you send are very small and it is difficult to classify them on a simple inspection. We cannot, of course, undertake to make analyses for this column.

The clay sample seems to be a white clay, containing, of course, a large percentage of alumina, but also some silica and a trace of iron. It would not be suitable for china clay on account of the iron; nor is the color good enough to make it suitable for use in paper making. Further exploration of the deposit may, of course, show parts of it to be of better quality.

The other samples are a decomposed surface rock, partly quartz, with strong traces of iron. Whether there are any other metallic contents can only be determined by analysis. It is not phosphate rock of any kind.

These notes, as we have already said, are only from a superficial examination. Before doing anything further, you had better get all the samples you can from your deposit and have them analyzed by a competent chemist or assayer.

Chlorination Plants in the South.—Can you name any chlorination plant in the South which is in successful operation on sulphuret ores? Is there any new plant of this kind under construction in that section? Are there any large plants anywhere which treat sulphurets from mill tailings? Where can I find a good description of a practical chlorination plant for gold ores?—B. B.

Answer.—1. A large chlorination plant has been in operation for several years at the Haile Mine in South Carolina, under charge of Mr. Adolph Thies, treating sulphuret ores, of which there is a large deposit there. This plant, it is understood, is making good returns and is paying its owners well.

2. The Dahlonega Consolidated Gold Mining Company, which recently bought a number of small mines in the Dahlonega District in Georgia, has let contracts for machinery and other material for a large chlorination plant and work is now in progress.

3. The most notable instances of the kind you mention are the mills of the Alaska Treadwell, the Alaska Mexican and the Alaska United companies on Douglas Island, Alaska. In these the sulphurets in the tailings from the stamp mills are saved by concentration and treated by chlorination. About one-third of the total values saved, on an average, are derived from these sulphurets.

4. Consult the paper on "The Present Development of the Barrel Chlorination Process," by John E. Rothwell, in "The Mineral Industry," Volume V. This is the most complete article on the subject up to date.

Anthracite Coal for Locomotive Use.—Can you tell me to what extent anthracite coal is used in locomotives in the United States? What is the general practice in burning anthracite in locomotive boilers? Are there any special forms of boiler designed for anthracite? Can you refer me to any book on the subject?—P.

Answer.—1. The use of anthracite coal in locomotives in the United States is practically limited to the railroads running into and through the anthracite coal region of Eastern Pennsylvania. This fuel is too expensive for locomotive use outside of the district in which it is produced. Even in that district some of the railroads—notably the Lehigh Valley and the Philadelphia & Reading—use bituminous coal on many of the locomotives in freight service, on account of its lower cost. The only railroad having any considerable number of locomotives, outside of the anthracite region, which uses anthracite entirely, is the Metropolitan Elevated in New York; and in that case the use of bituminous coal is prohibited by the city ordinances.

2. Generally speaking, a stronger draft is required in burning anthracite than is necessary for bituminous coal. The combustion is slower, a greater quantity of fuel must be carried on the grate, and less frequent firing is needed. As the draft in a locomotive boiler depends on the exhaust, it cannot be intensified beyond a certain point. The conditions are generally met here by increasing the grate surface. In the ordinary form of locomotive boilers this is done by lengthening the fire-box. The usual practice is to make a fire-box for anthracite from 40 to 50 per cent. longer than one for bituminous coal. It is quite common, also, to put a combustion chamber on the front end of the fire-box. Of course with the longer fire-box—especially when a combustion chamber is added—the tubes will be shorter, so that an anthracite burning boiler will have greater fire-box heating surface and less tube surface than one burning bituminous coal. A difference is also made in the grates, on account of the more intense heat. For anthracite a water-tube grate, or one composed of wrought-iron bars, is generally used, instead of the various forms of cast-iron bar and shaking grates used for bituminous coal. In such boilers as have been briefly outlined, lump or run-of-mine coal is burned.

3. Various special forms of boiler and fire-box have been designed for anthracite. The Boardman, the Phleger, Milholland and other types have had their advocates, but they have all gone out of use. The only special form of boiler now used to any extent is the Wootten, which was designed for burning culm or coal dust and the fine sizes of coal—such as pea, rice and buckwheat. In this fire-box the grate area is about twice that which would be given to a fire-box for bituminous coal. The fire-box is very wide and shallow, so that it can be placed entirely above the frames. The Wootten boiler is in use on several roads, and its record for economy in fuel is good, as the combustion is excellent, and the cheaper grades of anthracite can be used. The chief objection to it is that the form of the fire-box makes the boiler structurally weak, and it is difficult to brace it properly, on account of the large extent of flat surfaces. Another objection is the excessive labor of firing over so large a grate, and the tendency of the fire to work down and leave holes and of the exhaust to tear up the fire, unless it is constantly watched. The very large proportion of fire-box to tube-heating surface makes it a quick steaming boiler, but the smoke-box temperature is apt to be too high for the best economy. It is necessary, also, to put the cab over the top of the boiler and separate the fireman from the engineer, which is bad for many reasons.

4. While there is no book devoted specially to coal burning in locomotives, you will find very full information about combustion, the various forms of locomotive boilers and the use of different kinds of coal in M. N. Forney's "Catechism of the Locomotive" (Price $3.50); which is the best standard work on locomotive practice known to us.

PATENTS RELATING TO MINING AND METALLURGY.

UNITED STATES.

The following is a list of the patents relating to mining and metallurgy and kindred subjects issued by the United States Patent Office. A copy of the specifications of any of these will be mailed by the Scientific Publishing Company upon receipt of 25 cents.

Week Ending July 18th, 1899.

629,922. TRAP FOR RECOVERING GOLD-WASTE FROM JEWELERS' WASHINGS. David I. Byers, Hartwell, O. The combination with the drain-pipe from a jeweler's wash-sink of a vat and vertical partitions, by which it is divided into a number of compartments.

628,940. ROTARY FURNACE. Edward H. Hurry, Bethlehem, and Harry J. Seaman, Catasauqua, Pa. A tubular structure provided adjacent to its end with a jacket having its annular inclosing wall extending toward the rear of the furnace, inclined from the closed end upwardly with reference to a horizontal line, and a water-feed pipe for discharging a jet of water directly into the open end of the jacket.

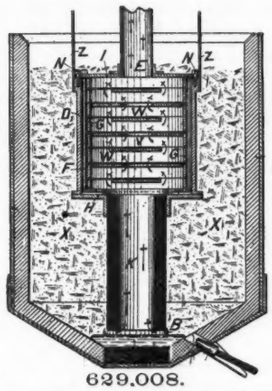
628,962. PILE-DRIVER. Abram C. Speer, Woodville, Ore. The combination of a base-rest, upright guides thereon, a drop or weight movable in said guides and having a rack-bar attached thereto, and an adjustably-mounted pinion to alternately engage and disengage said rack-bar.

628,985. PROCESS OF MAKING LEAD SUCRATE. Georg Kassner, Munster, Germany. The process of treating saccharine solutions, containing levulose, dextrose and cane sugar which consists in adding a lead salt and earth alkali to the solution and agitating it, whereby lead hydrate is formed in the mixture, precipitating the levulose and dextrose, removing these precipitates, allowing the remaining solution to stand until the sucrate crystallizes, and removing the sucrate.

628,989. ROTARY PUMP. William E. Penn, Lake Mills, Wis., assignor to F. B. Fargo & Co., same place. The combination with a pump-case having a cylindrical chamber open at one end, of an independent removable head fitted to the open end of the pump-chamber by yielding (rubber) packing against a beveled bearing, and a swinging laterally-disposed arm provided with means bearing against said head centrally adjustably adapted to hold the head to the case tightly.

629,008. APPARATUS FOR DISTILLING METALS OR SIMILAR SUBSTANCES. Oscar Frolich, Steglitz, Germany, assignor to Siemens & Halske Actien-Gesellschaft, Berlin, Germany. The combination with a crucible adapted to receive the treated material, of a movable tubular carbon electrode, a condensing-chamber connected with the opening in the said electrode, and means provided within the chamber for retaining the condensed products of the furnace, the said electrode and condensing-chamber being mounted within the crucible and constructed to receive the treated material between their side walls and those of the crucible.

629,023. ROASTING FURNACE. Lewis T. Wright, Keswick, Cal. The combination, with a series of floors, of a central hollow shaft, hollow arms carried thereon over the respective floors, an open-bottomed pipe inserted in said shaft, an intermediate closed-bottomed pipe in said shaft into which the first pipe discharges at the bottom, open-ended pipes leading from the intermediate pipe into the hollow arms, and feed and exhaust pipes connected to the first pipe and hollow shaft.



629,008.

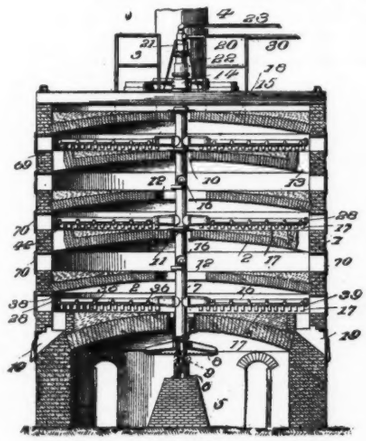
629,028. DAM. Gustavus L. Cudner, New York, N. Y., assignor of seven-eighths to Edmund L. Zalinski and H. Tweddle, same place. A dam consisting essentially of transverse wire cables securely anchored, and supported at the anchorage at a distance one above another, vertical supports connected to the cables, wire-mesh sections between cables and supports and secured thereto, and a suitable facing or filling, all combined.

629,043. APPARATUS FOR ELECTROLYSIS. John T. Morrow, Great Falls, Mont. In combination with an electrolytic tank and with the anodes and cathodes thereof, a reed-board, a series of reeds supported therefrom, and mechanical means for moving the said reed-board to and fro transversely.

629,048. MINING DREDGE. Lorenzo D. Sibley, Vineland, N. J. A fluid-pressure pipe for conveying fluid under pressure to be forced into the earth, a frame fixed to said pipe, above the open delivery end thereof, a shovel hinged to said frame at a point to one side of the pressure-pipe, and means for raising or lowering the hinged scoop, whereby the scoop may be raised to a horizontal position or lowered to a vertical position at one side of the plane of the pressure-pipe.

629,084. ALLOY OF ALUMINUM. Ludwig Mach, Jena, Germany. An aluminum-magnesium alloy bed containing aluminum and magnesium in the proportions of 100 parts of aluminum to between 10 and 30 parts of magnesium.

629,098. ORE CRUSHER. Byron I. Turman and Thomas J. Hampton, Los Angeles, Cal. Combination of a rotating shaft, a frusto-conical metallic runner slidably mounted on a squared portion thereof, a cylindrical shell surrounding said runner and supported thereby,



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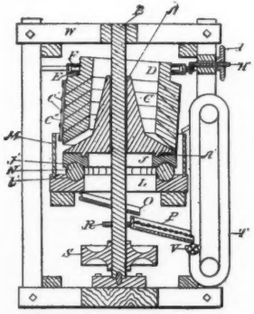
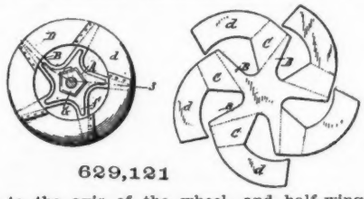


629,098.

a ring surrounding the shaft immediately below and engaging and supporting the runner, a stationary annular bed-plate having an annular groove or face formed in the upper face thereof, pulverizing-balls adapted to fit between said groove and the under face of the ring, a casing extending up from the bed-plate, a chute below adapted to reveive the ore, a screen receiving the ore from the chute.

629,121. BLOWER. Charles H. Bicalky, Buffalo, N. Y. A blower composed of two like sheet-metal sections, each comprising a central or hub portion, arm portions radiating therefrom and arranged at right

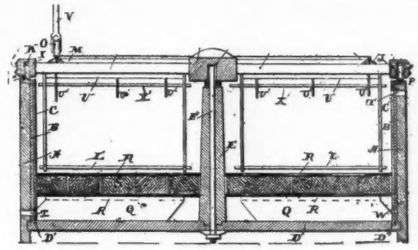


629,121

angles to the axis of the wheel, and half-wings extending outwardly from the front edges of said arm portions, the hub and and arm portions and half-wings of each section being stamped from a single blank and the arm portions of the two sections being secured together side by side to complete the wheel, whereby each arm of the completed wheel contains two thicknesses of metal.

629,134. CELL FOR THE PRECIPITATION OF METALS. Joseph Luce, Salt Lake City, Utah. A tank, a revolving frame mounted thereon for carrying the cathode, combined with the anode, consisting of two slotted lead pipes, one of which is connected with the circuit, a series of carbon blocks placed between them, the cathode elements, and electrical connections.

629,145. INSTRUMENT FOR CUTTING GROOVES IN CYLINDRICAL HOLES IN ROCKS. Joseph E. Almon, Montpelier, Vt. The cutter-bar A, having at its lower end a circular guide-thimble F, integral



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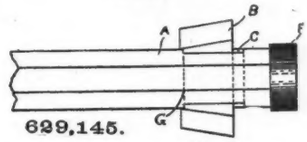
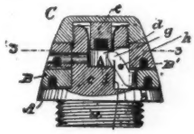


629,145.

therewith which is adapted to fit the wall of the blasting-hole in combination with the transverse cutter B, in one piece having integral cutting-blades on its protruding ends and a wedge which fastens the said cutter in the opening E' of the said bar, these two parts, A and B, with their fastening-wedge, constituting the entire instrument.

629,160. TIME-FUSE. Oscar Hartman, Essen, Germany, assignor to Fried. Krupp, same place. Combination with the main body, A, of a time-fuse, its percussion-chamber, d, plunger, e, firing-pin, f, and recessed fuse-ring, B, of a spring latch-lever, g, pivoted within a notch in the body, A; the whole being so shaped and arranged that in its normal position the lower end of the lever, g, engages the



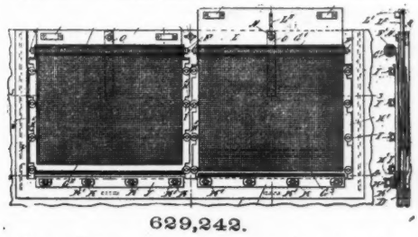
629,160.

recess in the fuse-ring, B, so as to prevent turning of the latter in the body, A, while the upper end of the lever projects into the percussion-chamber against the plunger, so as to prevent the latter coming in contact with the firing pin, but adapted to be disengaged from its normal position by forcibly turning the fuse-ring, B.

629,195. SPOUT-GATE AND MECHANISM FOR OPERATING SAME. Henry F. Kuss, Escanaba, Mich., assignor to himself and Quintin R. Hessel, same place. The combination with a spout, of a gate mounted to swing vertically between supports at the discharge end of said spout, guides on said supports, a locking-frame mounted to slide in said guides, a flexible connection between said frame and the gate, and means for elevating said frame.

629,202. DRYING KILN. William B. McHenry, Grafton, W. Va. The combination of the drying-chamber, a furnace for heating the same, an air-inlet at one end of said chamber, an uptake at the receiving end thereof, and smoke-flues exterior to the drying-chamber for connecting smoke to the said uptake; with a valve for establishing direct communication between the upper part of said drying-chamber and said uptake.

629,242. SCREEN FOR STAMP MILLS. Martin R. Driscoll, Frisco, Utah. A stamp-mill, having an apertured frame, a roll of screen material mounted above the aperture and having a portion extending over the aperture, a clamping-frame extending about the lower and



629,242.

side edges of the aperture and covering the edge of the screen material, said frame having vertically-extending bolt-recesses in its side bars, claiming-bolts within said recesses and an auxiliary claiming-bar engaging the outer face of the lower side of the clamping-frame.

629,245. APPARATUS FOR PRODUCING RIBBED OR CORRUGATED TUBES. Salomon Frank, Frankfort-on-the-Main, Germany. The combination of a matrix and a mandrel between which the tubes to be ribbed or corrugated are caused to move; balls carried by the matrix and the mandrel and caused to press respectively on exterior and interior surfaces of the tube while the said tube is moving between the matrix and the mandrel.

629,246. CARBURETER. Joseph Grau, New York, N. Y. A valve-controlled compressed-air tank, a carbureter, an oil-tank, an oil-reservoir, an air-pipe communicating between the compressed-air tank and carbureter through which air is adapted to flow.

629,268. PROCESS OF MAKING PIGMENTS. Thomas J. O'Sullivan, London, Canada, assignor to Helena Amelia O'Sullivan, same place. The process consists in saturating sawdust with a salt of iron and then drying and burning it.

629,317. APPARATUS FOR PRODUCING CARBURETED HYDROGEN. John Fielding, Upton, St. Leonards, England, assignor to the Gas and Sulphate Producer, Limited, London, England. An apparatus consisting of two producer vessels having perforated plates in their bottom portions, partitions located, respectively, in the producer vessels, and having vertical tubes rising to the tops of said vessels, a carbureter, branch pipes leading from the upper ends of said tubes, a pipe connection leading from the carbureter and common to said branch pipes, for conducting the generated hydrogen from both vertical tubes to said carbureter, a pipe leading from the latter to a service-pipe, and a pipe connection between the parts of each vessel which are above and below the partition therein.

PERSONAL.

Mr. Patrick Clark of Spokane, Wash., has been visiting Rossland, B. C.

Mr. John B. Farish, mining engineer, of Denver, is in San Francisco.

Mr. Ernest G. Miller, of Denver, is looking over the mining situation in Utah.

Mr. A. F. Holden, managing director of the United States Mining Company, is in Utah for a brief errand.

Mr. W. H. Jeffery recently reported on mining properties in the Wild Horse Division of West Kootenay, B. C.

Mr. H. A. Cohen left Salt Lake City on July 29th to join Capt. De La Mar, who is yachting on the Atlantic.

Mr. De Putron Gliddon, president of several large Colorado industrial and mining companies, is in San Francisco.

Col. N. E. Linsley is examining mining properties on the Twisp River, east slope of the Cascades in Washington.

Baron Louis von Ruceau, who has been in Europe for some months on mining business, has returned to Cripple Creek, Colo.

Mr. O. E. Weller, of Boston, was to be in Salt Lake City, Utah, the first of the week. He represents large Utah mining interests.

Mr. Nat Wilson, formerly superintendent of the Moon-Anchor, at Cripple Creek, has accepted a position as such on the Dante Mine, on Bull Hill.

Mr. J. L. Parker of Rossland, has been making an examination of the Salmon and Yellowstone sections of the Ymir Division, West Kootenay, B. C.

Mr. John B. Hastings, general manager of the War Eagle Mine, has been making an inspection of the mining outlook on the west coast of British Columbia.

Prof. G. P. Grimsley, of Topeka, Kan., returning from California, spent last week in examining geological conditions of the more prominent Utah districts.

Mr. V. M. Clement arrived in Salt Lake City a week ago. He plans to stay in Utah 10 days or a fortnight, and will visit Tintic and Park City for the first time.

Mr. W. F. Ferrier, mining engineer, has been in charge of the engineering part of the War Eagle management at Rossland, B. C., during the absence of Mr. Hastings.

Mr. J. A. Hunt, formerly of Telluride, Colo., has resigned his position as chief engineer at the Bland Mill, at Bland, N. M., and will go to the gold fields of Lower California.

Mr. Pierre Humbert, Jr., of Boston, who is interested in Alaskan mines, and is at the head of a project to construct a railroad from Pyramid Harbor to Fort Selkirk, is in San Francisco.

Messrs. Frank Owen of London, and A. W. Grazebrook of Dudley, Eng., mining engineers, have arrived in the United States to examine mineral lands in West Virginia for a London syndicate.

Mr. Isidor Davidov, mining engineer, who has been for 12 years past employed in superintending prospecting and mining operations in Siberia, chiefly in the Lena River Valley, is now in New York, and purposes undertaking professional work in this country.

Mr. O. O. Howard, Jr., president of the Mount Shasta Gold Mines, Limited, of California, has returned to San Francisco from the East, where he has succeeded in organizing the Ratcliffe Gold Mines, Limited, of the State of Michigan, to develop mining property in Invo County, Cal.

Mr. J. M. Maclaren, director of the Coromandel School of Mines, in New Zealand, has resigned his position in order to take up a private appointment. It is understood that in the course of a few months he intends to proceed to Great Britain in order to pursue studies of a technical nature.

Mr. Fred Miller of Corning, O., has been near Kanawha Falls, W. Va., looking into the advisability of opening the coal leases of W. C. Kirby and others, near that point. Mr. Miller has been, until within the past few months, president of the New Hamburg Coal Company, of Corning, O.

Mr. David Giles, Chattanooga, Tenn., has been appointed manager of the United Cast Iron Pipe and Foundry Company's plants at Chattanooga, South Pittsburg, Tenn., and Bridgeport, Ala., with L. Giles assistant manager. Mr. J. Hill is made assistant superintendent at South Pittsburg, and Mr. J. K. Dimmick general manager of the Bessemer and Anniston, Ala., plants.

M. St. Paul de Sincay, managing director of the Vieille Montagne Zinz Company is now in New York, and purposes spending some time in visiting points of interest in this country. As manager of the largest zinc works in the world —and the most carefully and scientifically managed—he is much interested in the progress of metallurgy in this country and will doubtless observe our works closely.

OBITUARY.

Col. Horace Harding of Birmingham, Ala., died in Grand Rapids, Mich., on July 29th, from the effects of typhoid fever. The remains were brought to Alabama for interment. He was born in Boston, Mass., 72 years ago, and was a graduate of Harvard. Col. Harding was a civil engineer by profession and built the locks in the Warrior River at Tuskaloosa, Ala. As an active member of the Alabama Industrial and Scientific Society he took a great interest in the mineral development of Alabama.

SOCIETIES AND TECHNICAL SCHOOLS.

Society for the Promotion of Engineering Education.—The seventh annual meeting of the society will be held at Columbus, O., in connection with the American Association for the Advancement of Science on August 17th, 18th and 19th. The Secretary Albert Kingsbury, of Durham, N. H., announces that the principal railroad passenger associations have granted a 1 1/3 fare on the certificate plan, while a 1-rate fare has been granted by the Central Passenger Association. The program for the meeting includes an address by the President of the Society, Thos. C. Mendenhall, of the Worcester Polytechnic Institute, and papers by Profs. A. L. Rice of the Brooklyn Polytechnic Institute, W. T. Magruder of the Ohio State University, Edgar Marburg of the University of Pennsylvania, F. L. Emery of the University of West Virginia, J. P. Jackson of Pennsylvania State College, C. F. Allen of Massachusetts Institute of Technology, W. S. Aldrich of the University of Illinois and H. B. Smith of the Worcester Polytechnic Institute.

INDUSTRIAL NOTES.

The Gates Iron Works, of Chicago, Ill., has booked an order from a Colorado company for a 16-ft. Gates tube mill for fine pulverizing.

The Edward P. Allis Company, of Milwaukee, Wis., has received orders from the Colorado-Philadelphia Reduction Works for some Holthoff-Wethey roasting furnaces.

The Hay-Budden Manufacturing Company of Brooklyn, N. Y., recently shipped to Vladivostok, Siberia, 40 300-lb. anvils. The company last fall shipped 30 similar anvils to the same port.

As a result of a notice saying that wages would not be paid until 8 days after they were due, 150 men struck in the Raritan Copper Works at Perth Amboy, N. J., on August 2d, closing down the electrolytic department.

The Buffalo Forge Company, of Buffalo, N. Y., says it is not interested in any combine, and is owned and controlled solely by William F. Wendt and Henry W. Wendt, doing business under the firm name of the Buffalo Forge Company, at Buffalo, Chicago, and New York City.

Last fall the Vulcan Foundry and Iron Works of Toledo, O., shipped a large Vulcan steam shovel to Grangesberg, Sweden, for use in the iron mines there. Recently President Alexander Backus received a statement of the work the shovel is doing, which said the Swedish company is much pleased with its purchase.

The Thew Automatic Shoveling Company has been formally organized with an authorized capital of $200,000. The officials of the company are F. A. Smythe, Lorain, O., president; R. Thew, Cleveland, vice-president; W. A. Donaldson, Lorain, secretary and treasurer. Work is to begin at once on the company's new plant at Lorain.

Representatives of the Pennsylvania Bolt and Nut Company, East Lebanon Iron Company and Lebanon Iron Company, all of Lebanon, Pa., and the National Bolt, Nut and Rivet Works and J. H. Sternberg & Son, of Reading, Pa., have made formal transfer of the stocks of those corporations to the American Iron and Steel Manufacturing Company.

The Denver Branch of the Jeanesville Iron Works of Jeanesville, Pa., reports recent sales of mine pumps as follows: Sun & Moon Mine, Idaho Springs, Colo., duplex station pump; Bassick Gold Mine, Silver Cliff, Colo., large station pump; Northern Coal Company, station pump, of 500 gal. capacity; Bankers Mine, Leadville, Colo., No. 7 sinker.

The Star Boiler and Sheet Iron Works Company, of Denver, is now making 6 40 H. P. boilers for the Blue River Gold Excavating Company at Breckenridge, Colo.; one 80 H. P. boiler for the Ontario-Colorado Gold Mining Company at Black Hawk, and 3 water jackets for the American Smelting and Refining Company, to be used at the Globe Smelter.

The Republic Iron and Steel Company, according to a recent statement of Harry Rubens, counsel of the company, now controls 12,000 acres of coal and iron land in Alabama, and the Bessemer, Lillie Franklin, Cambria and Victoria iron mines in Minnesota and Michigan. Of the $25,000,000 preferred stock $20,500,000 has been issued and all the $50,000,000 common stock.

The Mesta Machine Company of Pittsburg, Pa., is to furnish the Illinois Steel Company 5 immense blowing engines of the horizontal cross-compound type. The engines have steam cylinders 44 in. and 84 in. in diameter, each with 2 air tubes 84 in., the stroke of all cylinders 66 in. Each engine will weigh 400 tons. They will furnish blast for 2 new furnaces at South Chicago.

Messrs. Charles H. Besly & Company, Chicago, Ill., report numerous shipments of their "Helmet" oil and "Perfection" and "Bonanza" oil cups to points from Maine to California, and say the demand for "Helmet" oil is the largest they have ever known. Among foreign orders Messrs. Besly & Company are just equipping a machine shop in India with lathes, drill presses, chucks, fine tools, etc.

The Pennsylvania Steel Company, of Harrisburg, Pa., has shipped 43 carloads of bridge and construction steel via New York City to India. It comprises half of the iron for a huge viaduct across the Gokteik Gorge, 80 miles west of Mandalay. The company will get $700,000 for the work. Twenty-five of the steel company's workmen will accompany the steel to superintend construction, which will begin in November.

The Cameron-Tennant Machine Works of Richmond, Va., of which Alexander Cameron, Jr., is president; William Cameron, Jr., secretary, and Barton H. Cameron treasurer and general manager, is to do a general machine construction and repair business. The company owns the patent interest and manufactures the Leitch variable stroke power pump, put on the market by the Smith-Courtney Company of Richmond, Va.

A circular sent out by the Virginia Coal, Iron and Coke Company of Bristol, Va., and Tennessee, states that the officers of the company are: George L. Carter, Bristol, Tenn., president and general manager; E. R. Chapman, New York City, vice-president and treasurer; M. D. Chapman, Bristol, Tenn., vice-president and assistant treasurer; J. P. Trigg, Bristol, Tenn., assistant to the president, and T. T. Davis, Bristol, Tenn., secretary. Walter Graham has been appointed general superintendent, with headquarters at Bristol, and will have charge of operations of mines, furnaces, horse shoe, spike and rolling mills, foundries and machine shops. Joseph L. Hunter has been appointed mechanical and consulting engineer, with headquarters at Bristol, and will have charge of betterments and repairs of furnaces, mills, foundries and machine shops, and will report to and receive instructions from the president or vice-president. C. O. Parker has been appointed civil and mining engineer, with headquarters at Bristol. Dayton H. Miller has been appointed auditor, and C. B. Anderson, assistant auditor, with headquarters at Bristol. William J. Brown has been appointed manager of sales department, with headquarters at Bristol. Frank P. Harmon has been appointed purchasing agent and manager of stores.

The Denver Engineering Works Company of Denver, Colo., reports several car loads of machinery already shipped to the 2 mills it is building for the Mountain Pride Gold Mining Company and the Ault-Wiborg Company near Breckenridge, Colo. Each of these mills when finished will be the most modern type of concentrating mills in the State. The Mountain Pride mill will be worked by steam power and the Ault-Wiborg by electricity. The company is now erecting at its works 2 pyritic smelting furnaces, a large traveling crane has been constructed especially to put these furnaces together before shipment to insure that everything will fit properly. One furnace will be erected in Leadville and the other near Atlanta, Ga. The total shipment to Georgia will comprise a fair-sized train load. The company is also building a sampling plant to be worked in conjunction with the Georgia smelter. Ten car loads of 16 in. by 36 in. Denver crushing rolls have just been shipped to Cripple Creek, for the large mill of the Economic Gold Extraction Company. The company states the demand for concentrators has so increased that it has been obliged to enlarge its facilities for turning out these tables. Inquiries are coming from all over the world. The three 150 H.P. double drum electric hoists, which are building for the British-American Corporation of Rossland, B. C., are being put together and will be tested previous to shipment. Orders have been placed with several of the best machine tool companies for a new planer, drill press, boring machine and gear cutter, to cost approximately $15,000.

TRADE CATALOGUES.

"Utah Mining Districts" is the title of an attractive pamphlet published by the Passenger Department of the Rio Grande Western Railway Company at Salt Lake City. The pamphlet contains a good map showing the location of all the mining districts of the State. It also contains maps on a large enough scale to show clearly all the principal claims and groups of claims in the Tintic, Camp Floyd (Mercur) and West Mountain (Bingham) Mining Districts. Numerous half-tone cuts supplement the text, which sets forth clearly and concisely the mineral resources of the State and progress made in their development. The pamphlet is sent free on application.

The Western Machinery and Supply Company of Chicago, Ill., is sending out circulars calling attention to some novelties in conveying machines and screens that they are putting on the market. The Challenge belt conveyor is stated to have rollers so arranged that the power requirement is reduced, as compared with other belt conveyors, while any belt of uniform thickness can be used. The "Challenge" trough conveyor is worked by a rocking motion of the trough—no scrapers or buckets being necessary. It is stated to be able to carry material not only along a level, but up a certain incline. The "Challenge" shaking screen employs the same reciprocating movement shown in the conveyor to separate screenings and tailings.

Gas engines in great variety are described in a finely illustrated 36 page catalogue published by the Union Iron Works of San Francisco, the cuts being made from photographs of engines in actual use. The company states that its engines are the result of 14 years' continuous development, and can be found in all parts of the United States, in Canada, Mexico, Australasia, China, Japan and Siberia. The expense of operating is stated to be 9 to 12 cu. ft. of oil gas per H. P. per hour, or ⅛ to 1/10 gal. of gasoline or naphtha. The company claims for its engines that the materials used in construction are the best obtainable, that the utmost care is taken in fitting and assembling the various parts, and that so far as possible, all parts are on the outside and easily accessible, making it an easy matter to examine "Union" engines or take them apart. All engines above 20 H. P. are fitted with self-starting apparatus. The stationary engines shown in the cuts are from 3½ H. P. to 60 H. P., the hoists from 2½ H. P. (a prospector's size) to 25 H. P., and the marine engines are from 15 H. P. to 130 H. P. The catalogue contains useful tables on the H. P. required in pumping water or hoisting weights, and is well worth perusal by any intending purchaser of gas engines. It is sent free on application.

MACHINERY AND SUPPLIES WANTED.

If any one wanting machinery or supplies of any kind will notify the "Engineering and Mining Journal" what he needs he will be put in communication with the best manufacturers of the same.

We also offer our services to foreign correspondents who desire to purchase American goods, and shall be pleased to furnish them information concerning goods of any kind and forward them catalogues and discounts of manufacturers in each line.

All these services are rendered gratuitously in the interest of our subscribers and advertisers; the proprietors of the "Engineering and Mining Journal" are not brokers or exporters, nor have they any pecuniary interest in buying and selling goods of any kind.

GENERAL MINING NEWS.

The America Mica Company, with a capital stock of $3,500,000, which, it is said, will control the output of mica in the United States, has been incorporated under the laws of New Jersey, according to a statement of C. B. Wisner, secretary of the Sills Mica Company, of Chicago. Representatives of the Sills Mica Company, of Chicago; the Eugene Munsell Company, of New York, and the American Mica Company, of Boston, the three largest companies in the United States, have formed the combination. Options have been secured on all the smaller companies and prices will be advanced 5% September 1st.

ALASKA.

Skaguay.

(From Our Special Correspondent.)

The White Pass & Yukon Railroad was completed to Lake Bennett on July 6th, and the company has begun preparations to continue work on the main line to Fort Selkirk, Northwest Territory, at the junction of the Lewis and Pelly Rivers, which form the Yukon.

ARIZONA.

Cochise County.

Dragoon Summit Copper Mines.—According to an El Paso dispatch, President George M. Jacocks and Counsel C. C. Dickinson of the Federal Smelting Company of Texas and the Dragoon Summit Copper Mines of Arizona, met with a novel experience recently at Dragoon Summit. President Jacocks discharged Superintendent Fitzgerald and went to Dragoon Summit. On reaching the mines he found Superintendent Fitzgerald and 15 men armed with Winchesters. After a parley the president withdrew. He said later he had got an injunction from a federal judge to prevent Fitzgerald from shipping ore, and had warned the Southern Pacific Railroad that if any ore was hauled from the mines it would be held responsible.

Yuma County.

King of Arizona Gold Mining and Milling Company.—This company in March contracted with the King of Arizona Construction Company, comprising D. M. Riordan of Tucson, president; Morgan Smith of York, Pa., and H. W. Blaisdell of Yuma, the latter general manager, for a sufficient water supply for mining and cyaniding, to introduce mining machinery and place 8 rollers for crushing ores for cyaniding, and to locate a cyanide plant, with a capacity to treat 100 tons of crushed ore per diem. The whole contract, it is said, was for $100,000. The construction company struck water in the valley, 17 miles from the mine, at 465 ft., besides another strike near the mine at 1,000 ft. in depth. The supply of water is now abundant. H. W. Blaisdell will continue as manager of the mine with a force of 60 men. Mohawk, 8 miles west of Texas Hill Station, is the shipping point.

CALIFORNIA.

El Dorado County.

(From Our Special Correspondent.)

Boulder & Canyon.—These mines, one 8 miles northwest of, and the other 5 miles south from Shingle Springs, are to be worked by electricity from the Folsom Power House.

California Jack.—This mine, 3 miles west from Georgetown, is being developed by the owners. A contract has been let to drive a 150 ft. drift and make an upraise 100 ft., which will tap the ledge at a depth of about 200 ft.

Carr.—This claim on the Brigham place near Kelsey shows up better. The rock is said to average $20 gold and $8 silver. The property is owned by Ryan & Job.

Crown Point.—Sinking at this mine, 1½ miles southeast from Diamond Springs, still continues. A new station has been cut on the 500 ft. and a recent crosscut has developed a large body of low grade ore.

Darling.—At this mine near Georgetown, 18 men are employed. On the 150 ft. level, drifts are being run in good ore. An English company works the property.

Red Hill.—A Pennsylvania company is making arrangements to sink a shaft on this property in the Kelsey District.

Fresno County.

(From Our Special Correspondent.)

Dyke Gold Mining and Milling Company.—This company has been incorporated with a capital stock of $100,000. Directors are J. C. Brown, M. Page Minor, W. C. Brown, C. F. Roberts and C. H. Belcher. The mining claims, located about 1½ miles southwest of Randsburg, will be worked by this company.

Inyo County.

(From Our Special Correspondent.)

Ratcliff Consolidated Gold Mines, Limited.—This company has been incorporated under the laws of Michigan, with a capital stock of $1,000,000. The company is a close corporation, the shares being held by 7 shareholders. The managers are O. O. Howard, Jr., president of the Mount Shasta Gold Mines, Limited, chairman; H. A. Ladd, secretary, both of San Francisco, and W. W. Durant of Battle Creek, Mich., treasurer. Robert F. Harrison, who is one of the shareholders, has been appointed superintendent and is now in charge. The property comprises a group of 12 claims in Pleasant Canyon, Panimint Mountains, in the South Park Mining District, about 6 miles from Ballarat. The mines are equipped with a 10-stamp mill, and a 50-ton cyanide plant, with a tramway 4,000 ft. long for conveying the ore from the mine to the mill. The mines are said to produce about $15,000 per month and employ 25 men. The management of the new company intends to double the capacity of the plant and to prosecute development of the mines. The ore body in places is said to be 30 ft. wide, with no hanging wall exposed, milling about $20 per ton in gold.

Mariposa County.

(From Our Special Correspondent.)

Mariposa Mining and Commercial Company.—This company has been organized to work the mines in the Mariposa grant in this county. Capt. Thomas Mein, president; H. H. Taylor, vice-president; H. C. Perkins, M. Gorham and Joseph H. Mooser, secretary, are the officers and directors. The grant comprises 44,387 acres, or 70 square miles. The principal mines are the Princeton, Josephine and the Pine Tree; the others are the Elizabeth, Green Gulch, Mariposa, Mount Ophir and the Mexican mines. These quartz mines, the first to be worked in California, will now be reopened and developed on a large scale. Dams are to be constructed and tunnels run on the 3 first named mines.

Nevada County.

(From Our Special Correspondent.)

OcK.—This hydraulic mine, on the Klamath River, near Happy Camp, is working 75 men repairing the old South Fork Ditch. This ditch is 18 miles in length and will carry 4,500 in. of water. The new saw mill has been completed.

Osborne Hill & Crown Point.—These mines, the former 3 miles from, and the latter on the edge of Grass Valley, have been purchased by W. B. Bourn of San Francisco, who will open them again. The Osborne, which has been idle for some time, was opened by a San Francisco company about 6 years ago, and a great deal of money spent on the surface, with little returns.

Pennsylvania Consolidated Gold Mining Company.—This company of Grass Valley has just declared its 31st dividend, amounting to 20c. per share. The property of the company is located about 1½ miles from Grass Valley.

Washington.—This quartz mine, near Carlisle, Placer County, has 10 men employed under the superintendency of O. W. Bruner. The cable has arrived for the 2,200 ft. tramway. About 1,500 tons of ore are on the dump, and a contract has been let to haul it to Cisco, the railroad shipping point. Returns from ore sent to the smelter have been very satisfactory.

Placer County.

(From Our Special Correspondent.)

Bald Mountain.—This gravel mine on the east side of Bald Mountain, 10 miles southeast from Westville, has been bonded to San Francisco parties. A new hoist is to be put in and $15,000 has been placed in the treasury as working capital; about 14 men are employed under F. W. Venzke, superintendent.

Shasta County.

(From Our Special Correspondent.)

Arps Group.—This group of copper claims, comprising 13 locations at Copper City, is to be developed under the management of William Arps. The ore body has been tapped again by a drift run from a winze sunk 25 ft. from the 100 ft. tunnel. The ore is said to be an oxi-sulphide. The property will probably be bonded soon.

Copper Plate Mining and Developing Company.—This company has been incorporated with a capital stock of $30,000. J. F. Morgan, W. Laing, G. M. Hignett, S. A. Rice and E. S. Wachhorst, all of Sacramento County, are directors. The company will develop copper properties.

Hearne.—On this copper claim on Squaw Creek, prospect work still continues. The first tunnel is well into the sulphide ore, and No. 2 tunnel some 50 ft. north and down the hill, making 75 ft. of depth, is being driven to demonstrate the sulphide deposit dips to the north. Another tunnel has been started below the No. 2.

North California Investment Company.—This company, which recently acquired the Black Diamond group of copper mines, has through its president, Geo. Bavha, and J. E. Isaacs, secretary, recorded 5 locations of mill sites of 5 acres each, on the south bank of the Pitt River; they are called A, B, C. D and E. This company has also acquired water rights on the south side of the Pitt River for smelting and mining purposes, amounting to 50,000 in.

Thompson.—This mine, 2½ miles southwest from Shasta, near the Igo Road, is being worked by Benjamin Swasey. A tunnel has been run 150 ft., developing a body of ore said to give smelting returns of over $175 per ton in gold.

Uncle Sam.—At this mine, 7 mines west of Kennett, a new vein 4 ft. wide has been cut while making an upraise from No. 2 level. The ore assays very high, a white quartz, with peacock and gray sulphurets, carrying free gold. A 50-ton cyanide plant is to be built. Some of the ore will undoubtedly be sent to a smelter for treatment.

Sierra County.

(From Our Special Correspondent.)

Mountain.—This property, near Sierra City, is reported to have been sold: 50 men are at work at present, and the mine shows up well. George M. Pinney is the principal owner.

Siskiyou County.

(From Our Special Correspondent.)

Arrangements are being made by Charles H. Souther to bring a dredger from below to work Yreka Creek. Lumber contracts are being made.

Greenhorn Blue Gravel.—On this claim, 1½ miles south from Yreka, a new shaft is being sunk to get down on the School House lot opposite the School House, where good pay gravel is supposed to exist.

Pumpkin Roller.—At this claim on Dan Lace Gulch, east of Dunsmuir, located only a few years ago, a rich strike has been reported.

Tuolumne County.

(From Our Special Correspondent.)

Kincaid's Flat.—This gravel mine, which has been idle for many years, is to be reopened under

bond by Rhodes & Mathews, of Sonora. Operations will commence at an early date. The claim comprises 75 acres, which has already yielded about $1,500,000. A force of men is to be put at work, and sinking will be commenced at once in what is known as the hydraulic sink. Two big tanks are to be erected, one for the gravel and clay, and the other for the water. All the pay is found where there is a large amount of red and blue clay, and this will either be puddled or dried before washing. About $6,000 will be spent to put the property in working shape.

COLORADO.

Smelter Situation.—The State Board of Arbitration, after listening to evidence from both sides, presented a report advising an 8-hour day for inside men and a 10-hour day for outside men at wages between those demanded by the employees and offered by the smelter management.

On July 31st the managers of the Trust smelters announced that they would allow the furnaces at Denver and at Pueblo to remain closed unless the strikers return to work under the schedule proposed before the strike. The men said they were willing to work under the scale proposed by the State Board of Arbitration, but would not accept the managers' scale. Consequently the situation is exactly as it was when the lockout occurred. The managers have intimated that they would enlarge the plants at Leadville, where no trouble exists, and put in additional stacks there. They will also ship to the Omaha and other smelters outside the state.

Boulder County.

Golden Age.—This mine at Jamestown, 750 ft. deep, is worked by leasers, who are shipping some high grade tellurium ore.

Miller-Barbour.—Work on these properties, in the Jenny Creek country, 3 miles south of Eldora, is to begin at once with a force of 15 men. Ex-United States Senator Warner Miller, of New York, and Henry P. Barbour, of Denver, were in Eldora last week. Sixteen men were employed nearly all last winter sinking shafts and driving tunnels, but for 30 days all work has been stopped on account of the water. A road is now being built to Eldora to connect with the Spencer mountain road.

Montgomery.—This mine at Jamestown, 250 ft. deep, was recently bought by Barbee & Wagy of Colorado Springs. It is shipping about 2 car loads of high grade ore a month. Barbee & Wagy also own the Golden Ledge, on which a shaft is down 150 ft.

Woody Mining and Milling Company.—This Jamestown company recently bought the Wano Mine, an old-time property, from William Brown. It is now worked by leasers, but the company will operate it as soon as the leases expire. The ore is a telluride, and the company has not yet decided what process to use.

Smuggler.—This old mine at Jamestown, about 900 ft. deep, has been started again by leasers, who are shipping small lots of ore.

Standard.—This claim at Jamestown is located on a great porphyry dike, said to carry $4 to $6 in gold. A 20-stamp mill is on the ground and a tramway is being erected. The tailings are concentrated on 3 Wilfley tables. A Mr. Schroeder, of New York City, is one of the principal stockholders.

Chaffee County.

(From an Occasional Correspondent.)

Good copper prospects have been opened on the Big Badger Creek and in the Jackal Mountains.

More interest now centers in mining about Salida than at any time in the previous history of the place. The closing of mines in the older districts has sent a surplus of prospectors to this section, and the result is the discovery of a number of new ore bodies.

On Pass Creek the Springville and Hartford mills are running full time in order to take the ores from surrounding properties.

Columbus.—A force of 20 men is cleaning up and retimbering No. 2 level at Garfield, and soon another gang will be put on in No. 3. These 2 levels are not connected, but work will soon begin on a connecting winze and then ore, of which there is plenty, will be shipped. The property has been idle 16 years. Boarding houses, etc., are being erected. A telephone line has been put up to the mine from the office in Salida. This copper proposition was discovered in 1879.

Sedalia.—Development on this copper mine continues and ore is being blocked out ready for heavier shipments when the smelters resume operations.

Lake County—Leadville.

(From Our Special Correspondent.)

Smelter Situation.—The fact that agitators were unable to influence the workmen of this camp and that the Bimetallic was able to blow in without trouble is most encouraging. Nearly 700 men are now employed by the 2 smelters, which are operating 11 furnaces, 3 at the Bimetallic and 8 at the Arkansas Valley. In addition the Arkansas Valley has 6 roasters in operation, and it is expected that ore shipments on a small scale can start this week, although there are about 15,000 tons of ore still in the bins. At the new pyritic plant men are putting up the new 300-ton furnace, and General Manager Duval, representing the Boston Company, thinks that they will be ready to blow in about September 1st. Report has it that the Union Smelter will be refitted and resume operations within the next few months.

Zinc Ore Shipments.—R. R. Moore has made another contract with the Vielle Montague Company of Antwerp, for all the zinc ore he can secure from this camp, his first contract of 200 tons proving very satisfactory. The ore shipped is 40 to 50% or better. Several of the directors of the Vielle Montague Company are expected to visit Leadville this year.

Big Six Mining Company.—Englebach Brothers, lessees, have blocked out large bodies of ore and will ship 50 tons per day of first class ore as soon as they secure a smelter market.

Bromley.—This new district is still attracting attention, and something like 25 strikes have been made. Old claims that have been idle for years are being started up, and the hills are covered with prospectors. Stages running to the place, which is about 23 miles from Leadville, are loaded with passengers. Mr. Chisholm, the owner of the Little Alec group, where the first rich find was made, is arranging for shipping some rich ore.

Home Mining Company.—The stockholders' meeting for the purpose of increasing the capital stock from $50,000 to $100,000, has been postponed until August 16th. The Penrose is shipping iron, as is also the Northern, and the Coronado will likely fall in line next week. In addition the fine lead ore body in the Starr is opening up and shipments have begun.

Burmah Gold Mining Company.—Thirty to 40 tons per day of crude ore is handled by the concentrating mill, making a concentrate of 8 to 10 tons. Plenty of ore is secured from the Alicante, while other strikes include an excellent find on the Cora, an extension of the Walter Scott vein.

Leadville Power, Water and Mining Company.—These people have leased a portion of their territory on Brooklyn Heights in Leadville to an Eastern syndicate. The new company, it is understood, will sink several shallow shafts and use diamond drills to test the formation. The deal is of much importance, as that section has not yet been developed. The owners of the ground leased to the new syndicate include T. A. Hall, of Boston; D. B. Wesson, of the Smith & Wesson Arms Company; Governor Cleaves of Maine, and others.

Little Ellen.—Shipments will be resumed about August 10th of 30 to 40 tons per day.

Nisi Prius.—Shipments have been resumed. The latest strike is in the Lecompton shaft. The vein is 3 ft. wide and assays show 78 oz. silver and 18% lead.

Resurrection Gold Mining Company.—About 100 men are developing and prospecting, the bins are full, and 200 tons per day can be produced.

Small Hopes Consolidated Mining Company.—Manager Mudd is arranging to work the lower levels more extensively. Shipments were cut off entirely for a time by smelter shut-downs, but now 100 tons per day are handled by the Bimetallic Smelter. In the new workings of the Marian at 1,400 ft., a pump station is being cut preparatory to extensive development and prospecting.

Superior.—This group in Big Evans Gulch just south of the Ibex scale house has been leased to S. J. Sullivan of the Penn Company. The group consists og 35 acres which has lain idle for 15 years. A fine plant of machinery is to be put in position and an old shaft sunk to the lower contacts. Senator Wolcott, Dennis Sullivan and others are interested.

Ouray County.

Wheel of Fortune Mining Company.—This company contemplates erecting a concentrating plant and smelter near Ouray to treat ore from the Grand Trunk, Silver Queen, Monetizer, Mark Twain, Wheel of Fortune, Wild Cat, B. J. Smith and Belle lode claims, which it recently bought from W. J. Reynolds for a reported price of $80,000.

San Miguel County.

(From Our Special Correspondent.)

Fortuna Gold Mining Company.—E. L. Sleeper of Telluride, resident manager, says he will soon begin shipments from the Hacienda group in Bridal Veil Basin, that has come to the front during the past few months. A tunnel, 275 ft., is expected to cut the Hacienda lead in the next 25 ft. The cross vein carries 9 in. of gold and silver ore which runs as high as 9½ oz. gold and 375 oz. silver that will be shipped to the smelter.

New England Exploration Company.—This company that purchased the Smuggler-Union Mines, in Marshall Basin, is building a new mill at Pandora, one mile above Telluride. It will be a concentrating plant of 200 tons daily capacity, with 60 1,050 lbs. rapid drop stamps, Frue and Triumph vanners and the new Knocker table and will be ready this fall. The superstructure is building with a force of 50 to 60 men. This plant added to the present mill will necessitate 200 to 300 more men at the mines, and double the amount of timbers, fuel and supplies of all kinds. The output, now from 150 to 200 tons of ore a day, will be doubled. The company has a lease and bond on the Ajax Group of 5 claims on the southeastern extension of the Smuggler-Union vein, just across Marshall creek, it is said for $150,000. The Ajax has produced rich ore but has been idle some time, being owned by Eastern parties, who did not care to work or lease. Chas. W. Miller of Telluride is general superintendent.

Waterloo Group.—Manager Howard F. Bosworth of Telluride is arranging for a test run of 100 to 200 tons of ore. It will probably be treated at the Butterfield Mill, at the mouth of Bridal Veil Basin. He intends to test the ore by different processes, and then erect a suitable plant close to the property. In all the workings the vein shows from 3 to 5 ft. of vein matter, which runs from $15 to $25 per ton in gold and small values in silver, the gold being largely free milling.

Teller County—Cripple Creek.

(From Our Special Correspondent.)

Smelter Strike Situation.—The situation in regard to the smelter strike is much the same as it was a week ago, all parties awaiting the decision of the State Board of Arbitration. Some very strong rumors are afloat, however, that the smelters will start up the coming week. The closing of the smelters is beginnig to tell a little on the production from this district.

Golden Cycle Mining Company.—The Legal Tender Mine has closed down on account of the lack of a market for ore. It is understood that no pumps have been pulled except the sinker. This mine has been a regular shipper for some time, and has paid dividends. The stock is controlled by the Smith-Moffat people. Lee Wood has charge.

Independence Town and Mining Company.—This company is now producing about 30 tons of ore per day from the main working shaft on the Hull City Placer. The shaft is down about 550 ft., and no sinking is done. The company has recently begun shipping. During 1898 lessees took out nearly $700,000 worth of ore. The Vaughn shaft is now being worked under lease by Whiting, King and others.

Orphan Belle Mining Company.—The principal property has been transferred to 2 other companies, The Arrow and the Orphan Gold Mining Company. The former has taken hold of the north 2/3 of the property and the latter has the south 1/3. The property consists of 4 claims on Bull Hill. A Boston syndicate has had an option for nearly 2 years and has paid considerable money on it. This option that was secured by the new companies and not direct from the Orphan Belle Company. The deal was made by Messrs. R. P. Davis and Tucker & Ballard of Colorado Springs. The property has produced a large amount of ore but of late little work has been done on it. The amount of money that changed hands on the deal is said to have been $210,000.

Vindicator Consolidated Gold Mining Company.—Affairs are going on as usual. A new ore house is about completed. The mine is one of the regular shippers and dividend payers. The property adjoins that of the Lillie Gold Mining Company, Limited. F. J. Campbell has charge of the mine.

Zenobia Gold Mining Company.—Tutt & Penrose and others who are leasing on the south end of this claim have let a contract to McDonald and others to sink a new 2-compartment shaft from surface 400 ft. It is now down about 170 ft. The main workings are under lease. The Zenobia adjoins the Pharmacist on the west and has produced considerable ore in the past 7 years.

FLORIDA.

Phosphate Mining.—It is stated that Little Brothers of Jacksonville will begin mining rock at Anthony. This region was once active, but foreign buyers would not accept the rock from its containing too much iron and alumina, says the "American Fertilizer." Near Lee's in Madison County, on the Florida Central & Peninsular Railroad, a considerable body of rock has been found, but it is not high grade. The Dunellon Company is reported doing most of this work. All phosphate lands are being closely examined, and unless something unforseen turns up, at the present rate of mining Florida hard rock in nearly all the mines now worked will be exhausted in 2 years. Contracts for nearly half of next year's delivery have been signed. In some instances miners have sold their output up to and including 1901 at fairly good prices. As present prices permit of mining small pockets, a number of individuals are mining boulder, and hauling it in the crude state by teams to the nearest railroad siding, where they build kilns, and dry and ship it.

The Dutton Phosphate Company of Gainesville, Fla., has taken charge of the Fort White

& Southern Railway, running from Fort White to Pittston, and will probably connect it with its other railroad from Dutton to Clark, on the Plant System and Ambler road, which handles the output of over 8 mines. Several new mines are opening up along this road, among which are the new Buttenbach mines on the Cummer property. Everything appears to be quiet in the pebble district. While the hard rock shipments will not be very much larger than last year, it is expected that the pebble mines shipments will be fully 50,000 tons more.

IDAHO.

Idaho County.

Big Buffalo.—It is stated the first payment on the bond for a large amount given by the De La Mar Mining Company on this property was not made. It is said the De La Mar Company declined to make payment because Judge E. C. Steele, of Moscow, recently gave the grub stake claimants, Jacob M. Rice and Perry Mallory, each a quarter interest in the mine. The holdings of other parties, to whom the locators of the mine, Higley and Robbins, sold interests, have practically been cut in two. This decision brings on more complications regarding the ownership of the claim, and from the present indications the litigation over the Big Buffalo has just begun. Clark and Sweeney, of Spokane, threw up a similar bond on the property several months ago.

Owyhee County.

Cumberland.—Work has begun on this Silver City mine under new management.

Trook & Jenning.—J. E. Branscombe recently took a lease and bond on this claim near Silver City and on the Wagener Arastra, and will start work soon.

Shoshone County.

Mining Conditions.—Gov. Steunenberg states that the state will push its case against others of the leaders in the riots of April 29th, now that Paul Corcoran has been found guilty and sentenced to 17 years' imprisonment. The cases of several of these men will come up for trial on September 4th, and the governor states that the state has but begun its work. The fate of Corcoran has had a depressing effect on the prisoners awaiting trial and their sympathizers up Canyon Creek, and it would not be surprising if some members of the union turned state's evidence. In the meantime most of the mines are at work, though some have greatly reduced forces.

Sunset Peak.—This lead-silver property owned by W. A. Clark of Butte is being developed, a small force of men having been at work all winter on a 2,000 ft. tunnel that will cut the ledge at 750 ft. A boiler and air compressor are to be installed and machine drills used. The tunnel is now in about 300 ft.

INDIAN TERRITORY.

Oil Land Leases.—The Secretary of the Interior recently took action regarding certain oil lands reported to be very rich that are owned jointly by the Delaware and Cherokee Indians. Several concerns have sought to get leases on these lands from the Indians, the more prominent being the Cherokee Oil and Gas Company and the Cudahy Oil Company. It is alleged by officials of the Interior Department that the companies have failed to comply with the prescribed regulations for leasing Indian lands, and Acting Secretary Ryan recently directed the United States Indian Inspector for Indian Territory that it is not the policy of the department to permit single individuals or corporations to include immense tracts of lands in a large number of separate leases, and at the same time the department does not seek to deprive any person who has invested money in improvements of the benefits to which he is entitled. The result is to compel parties to do actual development rather than take up blanket options for speculative purposes.

IOWA.

Plaster Production.—It is stated that Emil Durr, president of the German-American National Bank of Milwaukee, and the head of the Durr Plaster Company of Grand Rapids, Mich., is interested in the Crawford stucco mill that is being erected at Fort Dodge. The other Iowa stucco mills are afraid that the new concern will cut prices and the Iowa trade will be as demoralized as that at Grand Rapids has been. The Adamant Company, a large user of plaster, is said to have prepared plans for a plant at Des Moines with a view of supplying a large part of its Mississippi Valley trade from that point. The company now has plants at Minneapolis and Omaha.

KANSAS.

Coal Miners' Strike.—Seventy-five negroes from the southwest have been put in the Central Coal and Coke Company's mine at Scammon. This quota fills up the Scammon Mine and further importations expected will be sent to the company's mines at Nelson. Altogether the company will soon have 600 imported negro miners at work in the district. President Hobart, of the Kansas & Texas Coal Company, says his company intends to fill its empty mines with imported negroes as fast as possible now. The Southwestern Mining and Improvement Company has also placed an order for negro miners.

MICHIGAN.

Copper.

In July the Wolverine produced 220.6 tons of mineral and the Atlantic 238 tons.

It is stated that ex-Secretary of War Alger is to undertake exploration work on Isle Royale. Jacob Houghton will have charge of the work. He was the last to conduct explorations on the island.

Osceola.—Three heads in the new mill are completed, but the mill will probably not handle rock before September. The building is 215 by 138 ft., of structural steel, lined inside with wood and outside with corrugated iron. The stamps are circular in form and have upright screens of 9-16 in. perforation, instead of 3-16 in. The stamped rock is received by a discharge which retains the heaviest copper and rock. Later the copper is caught in a revolving screen having ¼-in. holes and only copper passing through these holes finds its way to the jigs. With this system of milling, which, by the way, has been adopted by the Arcadian, it is estimated that not more than 30% of the former amount of slime will go from the stamps. The jigs are of an improved pattern and were built by the Portage Lake Foundry and Machinery Company. The mill is expected to be able to treat 1,500 tons of rock every 24 hours.

Trimountain.—It is stated that drill holes on this property near Houghton show considerable copper. The lode is stated to be 14 ft. wide, dipping 70°. A 3-compartment shaft is to be started at once.

Iron-Gogebic Range.

Increase in Miners' Wages.—The Oliver Mining Company, working the Norrie and East Norrie mines has met the demands of the men for higher wages, and allowed them a raise of about 10%. Two thousand men are affected.

Iron—Marquette Range.

Hartford.—At this old mine west of Negaunee the Oliver Mining Company has several drills at work under ground.

Riverside.—This mine near Republic, closed since 1893, is to be reopened, as is also the Magnetic, which has been closed many years. The Kloman, near Republic, another veteran producer, idle for 25 years, is likely to resume work soon.

Iron—Menominee Range.

Bessemer Ore Discovery.—It is stated that John Hooper of Crystal Falls last winter found Bessemer ore containing 65.7% iron and .003 phosphorous in some pits he put down in the low ground on lot 7, section 20, T43; R32. This locality is about a mile north of the range of deposits worked at Crystal Falls, lying close to the dicrite ridge and north of the outcrops of the slate formation about Crystal Falls. The ground is so wet that it has never been explored.

Deerhunt.—This new discovery, made by Mr. Hammond not far from Metropolitan, has been looked over by several parties lately, including prominent mining men, who speak well of it. The ore is said to run 45% iron, 38% silica and .007 phosphorus.

MINNESOTA.

(From Our Special Correspondent.)

As closely as can be figured now the 2 leading shippers of the state are about 600,000 tons ahead of their record of last year. The Duluth & Iron Range road is about 350,000 tons better than 1898, and the Duluth, Missabe & Northern nearly as much. Contractors for the extension of the Eastern Minnesota Railway from Hibbing to the Sauntry Mine have the line staked and are turning dirt as fast as possible, but find it hard to get men, and there is no likelihood of the completion of the line by September 1st. They are advertising for 100 men and offering $2.25 a day for common labor, the best pay ever known in this vicinity. The offer will have a tendency to draw men from the mines, where they are getting an average of about $1.90 for common labor, though there work is sure for 6 days in the week, and for all winter. The new line runs northeast from Hibbing, through the center of T 58, R 19, where many explorations are going on. It touches the south end of the village of Mountain Iron, then runs to the corner of Virginia, ending north of the village at Sauntry and Alpena mines, of the American Mining Company, the newly organized branch of the American Steel and Wire Company. The road is through a good country, and is 25 miles between Hibbing and Virginia, the westerly 3 miles to Longyear Lake having already been built.

Charters of several million bushels of grain for September delivery have been made at Duluth the past week at 3½c. a bu., equivalent to $1.30 for ore, and that may be now regarded as the figure for next month. That it is the top no one believes, and it is quite possible that ore may go so high as to prohibit its carriage by water. It is stated that several important contracts have been made between mining companies, receivers and railroads, under which all-rail all-winter shipments will be made, mostly, however, from the ranges of Eastern Michigan, though some ore is likely to go from the Vermilion.

Mesabi Range.

(From Our Special Correspondent.)

Fayal Iron Company.—The Fayal, at Fayal, of the Minnesota Iron Company, is another enormous mine, and probably will close this season second only to Mountain Iron. Mention was made last fall of the 100,000,000 stripping contract given the Drake & Stratton Company. This contract was so worded as to give the mining company permission to add to it, and the contract has now reached the respectable proportions of 1,600,000 cu. yds. The addition will probably come out of the pit at No. 3 shaft, thought part of it may be taken from No. 2. Of the work before undertaken something less than 400,000 yds. has been moved. The stripping company has some 500 men at work, paying from $1.75 to $3.50 per day. The stripping is being done at shafts 2 and 3, at each of which ore is mined by steam shovel milling. The mine may reach an output for the year of 1,000,000 tons, barring difficulty with Lake transportation. The Fayal is one of the very largest properties in existence and the ore is desirable, chemically and physically.

Gowan Explorations.—In Section 6, T. 58, R. 18, A. Gowan, of Duluth, is exploring with satisfactory indications. This is 3 miles due west from the Mountain Iron and on what has been supposed to be very close to the north line of the ore formation.

McGregor Explorations.—At these explorations, close to Hibbling, ore has been struck at 90 ft. Some 60 ft. of ore has been sunk into and a diamond drill is being set up to test the body. It is understood that the Kimberley & Jones interests have a finger in this pie.

Oliver Iron Mining Company.—The Mountain Iron mine shipped much of the early half of the season from 5,000 to 7,000 a day, and is now sending out from 8,000 to 11,000 tons a day. The capacity of this mine at Mountain Iron seems almost limitless, and its vast shipments are made with but a few men, less than 250 being employed in all capacities. All the Carnegie Mesabi ore for this year comes from here, Oliver being idle. National Steel has in this, as in the Oliver mines, a 1/6 share of the output, that being the old interest of the Oliver & Snyder steel companies. Mountain Iron will astonish the world this year with its shipments.

Sellers Mining Company.—This mine, operated by the Lake Superior Consolidated Iron Mines, of Duluth, has shipped more than half its 80,000-ton stockpile, and will clear up the whole. Shipments are under way at the Burt Mine's stockpile.

MISSOURI.

Jasper County.

(From Our Special Correspondent.)

Joplin Ore Market.—The condition of the ore market has been more satisfactory than for months past, and the outlook is bright. The ore buyers paid the Association scale price for all ore and several cars of top grade sold for $45 per ton, $2 above the Association price for 60%. A large amount of ore sold at $43 per ton, and the lower grades sold well up. This, with the heavy demand and large output sent the value for the week above $250,000 again. Lead sold throughout the week for $27.50 per 1,000. There is every prospect for a continuation of good prices, and it is believed that the conference between the smelting interests and the ore producers will result in establishing a minimum selling price for 6 months. As compared with the preceding week, the sales show a decrease of 76,840 lbs. of lead, an increase of 2,422,230 lbs. of zinc, and the value was greater by $57,770. During the corresponding week last year top grade zinc ore sold at $26 per ton and lead at $23 per 1,000. The sales were less than the past week by 3,331,380 lbs. of zinc, 25,720 lbs. of lead, and the value was less by $129,530. For the first 30 weeks of last year the lead sales were greater than this year by 5,586,110 lbs., but the zinc sales were less by 71,003,760 lbs., and the value was less by $2,848,324. Following is the turn-in by camps:

	Zinc, lbs.	Lead, lbs.	Value.
Joplin	1,623,280	237,640	$41,271
Galena-Empire	3,163,740	233,020	63,914
Carterville	1,505,310	249,450	36,866
Webb City	498,920	33,720	10,906
Oronogo	870,810	.....	18,959
Belleville	623,790	.....	13,412
Duenweg	385,620	59,660	8,582
Hells Neck	166,020	16,310	4,018
Cave Springs	132,350	5,290	2,393
Central City	358,660	490	6,825
Stotts City	307,650	.....	6,461
South Jackson	338,730	25,000	7,122
Alba	45,200	.....	994
Aurora	1,232,000	11,270	21,259
Granby	369,000	15,000	7,054
Carthage	108,820	.....	2,285
Wentworth	39,440	.....	789
Total for week	11,769,340	886,850	$253,110
Total 30 weeks	304,599,190	27,102,310	$6,573,974

Sales of mines and mineral lands this week have been light, but over 3,000 acres have been leased. The heaviest single transaction was the purchase by Governor W. C. Renfrow, general manager of the American Zinc, Lead and Smelting Company, of the Cass, Moore & Company and the Cass, Beaseley & Company mines and mills on the Hannum & McElroy land at Carterville for $60,000. Governor Renfrow's company already owns the lease and ½ interest in the fee, and this latest investment makes its total holding a little over $1,000,000 worth in the district.

There is the greatest activity in building in all the cities in the mining district, particularly in Joplin. Railroads doing an inter-urban business are adding heavily to their equipment, and it seems likely that an electric belt line will be constructed to connect every camp in the district. Such a line would be a paying investment, especially if constructed to handle freight from the various steam roads.

If Henry Sauer of Kansas City, Kan., is to be believed, the zinc ores in many parts of the district carry a small percentage of gold. Mr. Sauer recently had an assay made of zinc ore from his property just across the Kansas line, which gave nearly $5 in gold to the ton. He has shipped some ore to Denver, Colo., to see if a method can be devised of profitably separating the precious metal from the zinc in the process of cleaning the latter.

MONTANA.

Carbon County.

Carbonado Coal Mines.—It is stated that the mines at Carbonado owned by Marcus Daly and transferred to the Amalgamated Copper Company, will start up soon. The prices of mining coal will be reduced as well as the price of some grades of labor.

Flathead County.

Brick & Brannagan.—E. Murphy, manager of these claims in the West Fisher District, not far from Libby, is erecting a sawmill. The machinery for the stamp mill has been shipped from Milwaukee, and part of it is in Libby. There are 4 tunnels on the property, in all aggregating about 400 ft., and the ledge is about 5 ft. wide.

Leavenworth Mining Company.—This company is making progress in its placer properties, on Libby Creek, near Libby, under the management of J. H. Cunard.The company has acquired the placer claims on Libby Creek heretofore owned by the Conrad National Bank and others, of Kalispell, and intends putting in an extensive hydraulic plant. The company is made up largely of Spokane capital, and the head office is in Spokane. Following are the officers: Senator George Turner, president; C. F. Leavenworth, vice-president; J. C. Williams, secretary; J. H. Kenward, superintendent.

Snowshoe.—This Libby company is shipping 30 tons of concentrates every 4 days to the American Smelting Company at Great Falls.

St. Paul.—Imhoff & Prader of Spokane have an option on this group of 3 claims in Snowshoe Gulch from E. Michaud and others of Libby. The ledge averages 4 ft. wide and the ore is a lead carbonate carrying silver. About 200 ft. of tunnels have been run.

Jefferson County.

Ruby.—It is stated that work will shortly be resumed on this mine in the Lowlands. Work has been discontinued several months. At the recent annual meeting in Butte the following officers were elected: A. E. Spriggs, president; Charles W. Clark, vice-president; L. S. Wild, secretary and treasurer; W. A. Clark, C. W. Clark, A. H. Wethey, A. J. Johnston, A. E. Spriggs, M. L. Hewett and L. S. Wild, trustees.

Park County.

Bear Gulch Mining Company.—This company is running its 10 stamp mill at Jardine right along.

Bear Gulch Placers.—H. Bush has started work on the placer ground worked some years ago near Bear Gulch by George O. Eaton. He will get the values out by underground sluicing, the gravel being very deep.

Revenue Mining Company.—This Bear Gulch Company is putting up a 40-stamp mill on its property near Jardine.

Silver Bow County.

Gem.—This claim is under option to J. A. Coram, H. A. Root and other Boston men. It was part of the Davis estate. I. L. Merrill is in charge.

Snow Ball.—Boston men have taken hold of this claim 600 ft. north of the Gem, and will sink a shaft 200 ft.

Smokehouse Mining Company.—This company has been organized in Butte to work the Smokehouse, Destroying Angel and Copper Bottom claims, which comprise part of the city of Butte. The claims have been in litigation for years. The capital is $1,500,000. Jas. A. Murray and others are interested.

NEVADA.

Lincoln County.

April Fool.—A. H. Wethey and associates of Butte recently bought 80,000 shares of stock belonging to Frank Wilson. The new officers and directors are: William Thompson of Butte, president; A. H. Wethey of Butte, secretary and treasurer; Clarence K. McCornick of Salt Lake, vice-president; W. S. Godbe of Salt Lake and J. B. Leggat of Butte. Frank L. Sizer of Butte was selected as consulting engineer, and J. M. Healey was retained as manager. The general offices of the company will remain in Salt Lake City, but the secretary and treasurer, Mr. Wethey, will have offices in Butte. The new owners declared a dividend of 6c. a share on the 100,000 shares, payable August 1st, besides calling a special meeting of stockholders for August 21st, to amend the articles of incorporation, so as to increase the number of shares from 100,000 to 500,000, and reduce the par value from $5 to $1, and to provide also for placing 100,000 shares of the capital stock in the treasury, to provide revenue for a new mill and to prosecute development work.

Humbolt County.

(From Our Special Correspondent.)

The antimony mine about 70 miles north of Winnemucca, owned by Samuel Hunt, Orrin Bennett and S. D. Thacker, is reported sold to C. L. Taylor and J. M. Fulton of Reno. No price given. This is the only antimony mine in the United States, there being over 10,000 tons of high grade ore in sight.

NEW JERSEY.

Morris County.

Hurd Iron Mine.—Since work was resumed at this mine at Hurdtown, a shaft has been sunk 80 ft. from a point about 40 ft. down the old slope. This new shaft has struck a vein of iron ore 12 ft. wide which had never before been reached. Thomas M. Williams is mine superintendent.

Mount Hope Mine.—It is stated that negotiations are in progress for the sale of this iron mine to the Empire Steel Company, which now owns the Oxford Iron Works. If the sale is completed, it is said that work will be resumed at the mine.

Sussex County.

There is talk or reopening and working the old iron mine near Canisteer, which has been closed for a number of years. The only difficulty in the way is the cost of transportation.

Warren County.

Kishpaugh Iron Mine.—Work has begun unwatering this mine, which has not been operated for some years. Henry Richards, of Dover, N. J., has charge of the work for Pilling & Crane, the lessees.

NEW MEXICO.

Bernalillo County.

Cochiti Gold Mining Company.—The president has issued a circular to stockholders which states that the company has a shoot of ore opened to 600 ft. in depth and 450 ft. in length, which averages about 60 ft. wide. A special meeting will be held at Jersey City, August 10th. New stock to the amount of $25,000 will be offered to shareholders at par, $10, at ratio of one for six, the process to pay for fitting out the mill.

Grant County.

Big Casino.—James Woodward is shipping from this Bald Mountain claim 10 to 20 tons of silver ore weekly to the Silver City Reduction Works.

Crawford & Derbyshire.—This concentrating mill is mining steadily, crushing about 90 tons of ore per day, producing 7½ to 8 tons of rich copper concentrates. The monthly product of the mill runs in the neighborhood of $25,000. The ore reduced is low grade from the Montoya and other mines of the Santa Rita group.

Montoya.—John M. Fritter and Robert Worthen have 32 miners employed on the west side of the Montoya Mine, taking out low grade copper ore, on contract, for Crawford & Derbyshire. The ore runs 6 to 8% copper as taken out. About 90 to 95 tons per day is being taken from the work of drifting.

Romero.—H. Dawson has 50 miners taking out rich copper ore from his lease on this mine at Santa Rita.

Wood's Stamp Mill.—This 10-stamp mill at Gold Hill is to handle gold ore from the California, Nancy Lee, Chief, Little Charley and Standard Claims. It is said the ore averages 1½ oz. gold, and the concentrates which will be saved on True Vanners and Wilfley tables will run 5 to 10 oz. to the ton.

NORTH CAROLINA.

Davidson County.

(From Our Special Correspondent.)

Old Silver Hill.—This mine is being worked by Edward Hopkins of London, Eng. He has made several shipments of ore and is encouraged with the results.

Guilford County.

(From Our Special Correspondent.)

A gold mine near Gibsonville is being worked by A. F. Childs, of the Census Department, Washington, D. C. A 5-stamp mill has been erected.

Blue Ridge.—This copper company has been organized at Greensboro by James F. Jordan and associates, with a capital of $1,500,000. It is not known yet what property it proposes to work.

Henderson County.

(From Our Special Correspondent.)

Belle Hanscom.—These gold mines located near Hendersonville are being equipped by Dr. Horace J. Pullen of Denver, Colo., who has inspected the Parker Mine at New London.

Moore County.

(From Our Special Correspondent.)

Belle.—This gold mine is being operated for a party of West Virginia capitalists by Frank Williams of Putnam. The development has been encouraging enough to justify plans for a mill for treating the ore.

Person County.

(From Our Special Correspondent.)

Boston & Carolina Copper Mining Company.—This company continues to make car load shipments of copper ore, as do several other locations in the vicinity of Virgilina.

Rowan County.

(From Our Special Correspondent.)

Dutch Creek.—These mines are being opened up by J. J. Newman. They have some high grade gold and copper ores from the recent work.

Union Copper Mine.—The mine has about 400 men working and 13 boilers and engines busy. Shipments are over 100 tons daily of the ore. The first class ore is shipped to smelters in New York and New Jersey, while the second class is piled up for future treatment by a 100-ton concentrating plant now being erected. Walter G. Newman, the president and general manager, spends 4 days of each week in New York.

OREGON.

Baker County.

French-Flagstaff Mining Company.—This company, working the Flagstaff Mine, 7 miles east of Baker City, has, it is stated, renewed work. Development work for several months past has filled the ore bins. About 25 miners are employed, and this number will be increased from time to time. William O. Reynolds is superintendent.

Josephine County.

Illinois & Josephine Gravel Mining Company.—This company, composed of San Francisco men with $100,000 capital stock, now controls the Alexander Watts placer property, including water rights and ditches at the junction of Josephine Creek and Illinois River, 5 miles northwest of Kerby. L. H. Carver has charge of the improvements.

Lane County.

Musick Mining and Milling Company.—This company, composed of New York men, is to work the Musick Mine in Bohemia District. A 15-stamp mill is busy at the mine, and a large tonnage of concentrates is to be shipped to the Tacoma Smelter. J. W. Cook of Los Angeles, Cal., was the old owner.

PENNSYLVANIA.

Anthracite Coal.

Babylon.—At this colliery at Duryea, owned by Simpson & Watkins of Scranton, Pa., about 500 men and boys went on strike recently. They asked to be paid by the gross ton instead of by the car, claiming that the decking boss docked them too heavily.

Williams.—This colliery near Pottsville, which employs 800 hands, has been closed by the mine inspector, a "squeeze" having blocked air passages and impaired the ventilation.

Bituminous Coal.

A. H. Kirkland and James Drope, of Pittsburg, and some Eastern capitalists from the East have closed a coal deal in Lower Burrell Township, in Westmoreland County, with B. and J. H. Copeland. The sale embraces about 4,000 acres of the coal field southeast of New Kensington, and includes the coal owned by 100 different persons. The total price is reported to be $1,004,000.

The Republic Steel Company has purchased the Acheson coke plant of the Cornellsville Coke Company, at Gans, Springhill Township, the deal having been completed by John F. Acheson and officials of the steel company. G. D. Drum, agent, has notified 10 persons who gave options on coal lands adjoining three years ago that the options would be taken up for cash at once. It would appear that the steel concern is preparing to build more ovens, as the contract for 20 houses has been let.

SOUTH DAKOTA.

Custer County.,

(From Our Special Correspondent.)

Alexander Mill.—The Wilfley concentrators have arrived for the experiments that are to be

made on the ore in the Four-Mile District, west of Custer. The mill has been leased by L. B. Parker, of Denver.

Dakota Anaconda.—Good reports have come from this claim, at the head of Spring Creek, owned by James Yerxa.

Fall River County.

(From Our Special Correspondent.)

Wind Cave.—The General Land Commissioner at Washington has decided the Wind Cave case in an unexpected manner. He holds that the ground is not sufficiently mineralized to become a mineral location, which throws out the South Dakota Mining Company, and further decides that McDonald, the defendant in the case, has not shown good faith in his homestead entry, and it is therefore canceled. He recommends that the cave be turned over to the Government and converted into a public resort.

Lawrence County.

(From Our Special Correspondent.)

Detroit & Deadwood.—Four of the stockholders of this company—Malcom McCallum, of Detroit, president; Robert Murray, Detroit, secretary; J. H. Johnston, of New York, and W. H. Day, of Peoria, Ill.—are in Deadwood looking over development work on the City Creek copper property and the Two Bit gold proposition. The tunnel on the copper ground has been driven in nearly 300 ft. It will be driven at least 700 ft.

Portland and Clinton Mines.—Both of these mines, in the Portland Mining District, have closed down, owing, it is said, to the rise in smelter charges. The Clinton and Portland companies were charged 50c. more per ton. The ore is low grade, and the companies decided to close down and erect a plant near the mine. H. W. Seamans, of Clinton, Ia., secretary of the Portland Company, went to Spearfish and Belle Fourche to look over a site for an ore treating plant. The mines contain a number of bodies of ore.

Pennington County.

(From Our Special Correspondent.)

Bald Mountain District.—The last pay day was the largest ever made, owing to the starting up of several old mines by the Golden Reward Company. The Ben Hur, in Nevada Gulch, has started up again. The district is shippig about 600 tons of silicious ore per day.

Bismarck.—This concentrating mill, at Keystone, has started up with a force of about 80 men. It is treating about 150 tons of ore per day. The concentrates are shipped. The process is stated to be a success. The plant cost about $150,000.

Burlington Railway Company.—The company has decided to build from Hill City to Keystone, about 12 miles. The road will continue from the spur at the Addie Mine, about 4 miles from Hill City, leaving about 8 miles of new road. The road will cross the Remington Ranch, thence over the divide to the Bismarck Ranch, then to the mouth of Battle Creek Canyon. It will not pass Sheridan nor the Blue Lead Mine. The road will mean a great deal to Keystone. The Holy Terror will be able to burn coal for fuel, obviating further trouble about getting wood from the Government reserve.

Galena Mining Company.—H. H. Armstead, the newly appointed general manager, has arrived and will push development on the company's ground. The Eureka shaft is down 110 ft. in broken porphyry, quartzite and ore. A new shaft has been started on the Maverick claim. A small force of men is also at work on the Ruby Belle claim. Some machinery will be put in at the Hoodoo shaft.

Golden Reward Company.—Harris Franklin, vice-president, announces that no men will be thrown out of employment by the closing down of the Portland and Clinton mines. The Golden Reward Company has been obliged to put on a larger force to mine more ore from its mines to make up the deficiency made by the Portland mines stopping the shipment of 120 tons per day. The smelter is now charging $8.50 a ton for all ore containing 75% silica, no matter what the value of the ore may be. Ninety per cent. of the silver is also given. The smelter and chlorination plants are handling 425 tons of ore per day; 500 men are employed by the company, with a pay roll of $50,000 a month.

Golden Slipper.—Drifting is still in progress in the Golden Slipper. The vein has increased to 3 ft. wide, showing free gold.

Hill City District.—A. D. Arundel, of Minneapolis, has secured an option on some copper ground belonging to James Sherman and the McCurdy Brothers. The same company is developing a ledge of gold ore in the Lena, north of Hill City.

Homestake Mining Company.—The experiments made with the new cyanide plant at the Homestake mills are reported satisfactory. The plant will treat about 30 tons of concentrates per day.

Rapid City Railroad.—W. T. Coad, president of the Dakota Pacific Railway Company, has arrived in Rapid City to complete the old railroad begun 8 years ago from Rapid City to Mystic, about 30 miles. It is estimated that the old indebtedness is $100,000, held by Rapid City people mostly. It will cost about $450,000 to complete the road. About 8 miles have been laid with rails and most of the remaining distance has been graded. The road would connect with the Burlington at Mystic.

Standby.—This old mine, near Rockford, is being worked again by a New York company under lease. A tunnel is being run to cut the main ledge at 800 ft.

Wasp No. 2.—Recent tests of the low grade ore in this mine, in the Yellow Creek Mining District, owned by Jack Gray and associates, of Terraville and Deadwood, show the ore well adapted to the cyanide process. The owners are making plans for a small cyanide plant.

Wolfram Ore.—The owners of the Durango Mine, in North Lead District, shipped a carload of wolfram ore to New York City this week.

UTAH.

(From Our Special Correspondent.)

Bullion and Ore Shipments.—During the week ending July 29th there were sent east from the different smelteries of the trust 21 cars, or 845,511 lbs. lead-silver bullion and 1 car, or 41,625 lbs. copper bullion. The Utah Consolidated Smelter shipped 1 car, or 51,380 lbs., copper bullion. From the different camps of the state there were forwarded east for treatment 74 cars, or 2,956,550 lbs., of ore.

Utah Consolidated Smelter.—The shortcomings of the Wethey roasting furnaces are about made good. A brief shut-down was necessitated two weeks ago, but on July 25th there were 2 furnaces fired and the third will be in commission in a few days. Manager Poland states that by August 10th 250 tons of ore will be treated daily, and it is probable that figure will be increased to 300 tons by September.

Juab County.

(From Our Special Correspondent.)

Tintic Shipments.—In the week of July 29th there were sent out from the 3 railroad points of the district 1 bar of bullion, 118 cars of ore and 7 cars of concentrates. The bullion came from the Sioux mill. Ore shipments were: Mammoth, 23 cars; Grand Central, 13 cars; Centennial Eureka, 11 cars; Swansea, 11 cars; Bullion Beck, 10 cars; Gemini, 8 cars; South Swansea, 6 cars; Ajax, 5 cars; Uncle Sam and Humbug, 5 cars; Spy, 1 car; Sunbeam, 1 car, and Tintic Iron, 24 cars hematite for flux. Bullion Beck shipped 6 cars of concentrates and Sioux mill 1 car.

Alaska.—At the delinquent assessment sale, on July 25th, the 71,000 shares offered were quickly taken. The company has the Alaska claim paid for $10,000. Another assessment of 1½c. per share is about to be levied which will supply $6,000 to resume exploration. Superintendent E. P. Jennings of the Tintic Iron, is to have charge of the work.

Eagle & Blue Bell.—A carload shipment, just settled for, returned $150 gold per ton. Manager McChrystal reports improvement and anticipates larger shipments soon.

Gemini.—The uncoverings of the past few weeks give promise of the mine becoming a large shipper.

Mammoth Mill.—Much is said of James A. Cunningham's purchasing the Mammoth Mill. Under the new regime it is doubtful if the Mammoth Company will continue to operate the mill, and it is very probable that Mr. Cunningham will either buy or lease it. In that event Grand Central and other ores will be treated. As a custom plant, properly managed, it need never be idle.

May Day.—The ore recently exposed made is holding out. There is a 5-ft. face.

Showers Consolidated.—A strike was made 2 days ago, but of its dimensions nothing definite can be ascertained. Walker Brothers, the Salt Lake bankers, are the principal owners.

Salt Lake County.

(From Our Special Correspondent.)

De La Mar—Wall.—D. C. Jackling is to report on the concentrating and metallurgic problem of treating the cupiferous porphyry of this tract.

United States.—A purchase of the Northern Light, Grizzly and Fairview claims, which has been pending some months, is consummated. The sale was made by Dr. T. B. Beatty and the price is given at $50,000. For $1 and other valuable considerations the company has also bought of A. F. Holden the McGinnis, Cluster, 1898 and After Thought claims.

Utah Consolidated.—It is an open secret that a north and south lead-silver fissure has faulted the copper-gold ledge which has an east and west strike. A lot of 189 tons of ore was marketed this week which was nearly half lead. At the intersection of the two veins the copper ledge is ground thrown to the south, west of the fissure. West of the fissure the copper ledge is exposed showing a good ore body. This proposition was first believed to be simply a low-grade gold mine; next it proved a copper-gold mine of great worth and now it has opened a strong lead-silver vein.

Summit County.

(From Our Special Correspondent.)

Park City Shipments.—In the week ending July 29th the smelter products sent out through the Mackintosh sampler amounted to 3,083,580 lbs., and this total was made up as follows: Silver King crude ore, 1,089,420 lbs.; concentrates, 286,800; Daly West, crude, 739,500 lbs.; Ontario, crude, 415,410 lbs.; Anchor, concentrates, 406,110 lbs. Loring Bros., concentrates, 46,340 lbs. For the prior week, not previously reported, the total was 3,538,991 lbs., contributed by Silver King crude, 711,311 lbs., concentrates, 801,096 lbs.; Ontario, crude, 872,120 lbs.; Daly West, crude, 796,810 lbs.; Anchor, concentrates, 203,400 lbs.; Brunson, crude, 43,570 lbs.; Wykoff, concentrates, 47,930 lbs.; Loring Bros., concentrates, 42,770 lbs.; Bird, concentrates, 19,980 lbs.

A Generous Downpour.—On July 29th one of the heaviest rain storms ever known in Park City caused considerable damage, though there were no fatalities. Many tons of Ontario tailings—which are being profitably re-treated—were sluiced away and the tail dam of the Marsac mill was punctured. Roads to the shipping mines were badly washed.

Jupiter.—After a tie-up of 4 years the mine is being put in shape for examination, which will be made so soon as the tunnels, drifts, etc., are in trim. C. E. Street has a bond and expects to interest some Coloradians in the enterprise.

Tooele County.

(From Our Special Correspondent.)

Daisy.—Manager Murphy appears to be accomplishing something. It is said the mill shows a profit for July and this has induced the management to increase its capacity to 250 tons per diem and make other betterments.

De La Mar—Mercur.—Again there are whisperings of a forthcoming London flotation of the De La Mar holdings, together with the Mercur mine, for £2,000,000. It has been given out that John Hays Hammond is with Capt. De La Mar and that he will be here in September to finally pass on this transfer. "Mr. Hammond is not in the United States, nor did he cross the Atlantic with Capt. De La Mar, and the other parts of the story have the same foundation"; is the statement of a prominent mining man.

WASHINGTON.

Ferry County—Republic.

Butte & Boston.—This company has been reorganized as the Butte & Boston Gold Mining and Milling Company, with the following trustees: Phil Aspinwall, J. H. Wilmot, W. B. Heyburn, B. E. Barinds, W. S. Norman and D. Holzeman, of Spokane and J. H. Forney of Moscow, Idaho. P. Aspinwall will act as manager.

Okanogan County.

(From Our Special Correspondent.)

Bull Frog.—This claim near Loomis is now under the management of Del Hart. A shaft is down 130 ft. on the vein, which will be sunk to 500 ft., with drifts at each 100 ft. The management expects to purchase a steam hoist and other machinery. The reorganized company has 42 locations, taking in the old Wyandotte ground and improvements, which include a cyanide plant which will have to be almost rebuilt. The ores are gold, with good values; probably both concentration and cyaniding will be needed.

Golden Zone Mining Company.—This company has four adits amounting to 2,000 ft. They are about 100 ft. above the base of the mountain. The company is now making a raise and sinking a winze to connect them. Many surface improvements have been made in the way of mess and bunk houses, residences and office. A 30-ton concentrator is now being installed. This property, consisting of 18 claims now being patented, is especially interesting by reason of what is believed to be a well defined vein from 200 to 300 ft. wide cropping almost on the summit of a very precipitous mountain for 4,500 ft. in length. Assay values on the surface go $5 in gold and 14% copper. An adit is being driven which is now in 320 ft., which has struck a wall supposed to be the footwall of the vein. The next 100 to 200 ft. will of course show whether such an immense vein goes down. The wall has been encountered at 600 ft. vertical depth. An adit can be run 2,000 ft., starting much lower, which will gain 1,500 ft. It is not thought surface showings will be of more than passing interest in the district.

King Solomon.—On this, one of the first locations on Palmer Mountain District, near Loomis, an incline shift has been sunk 130 ft. on the vein, which averages 5 ft. wide. The ore runs in silver, copper and gold, the principal ore being silver. A contract has been let for another 100 ft. on the incline.

Triune.—Arrangements are being made for sinking 500 ft., which will require a larger hoist. Cyanide vats will also be added to the treatment plant; these improvements will take up the next 2 months.

Wehe Group.—This group, near Loomis, has been taken over by Fargo, N. D., and Milwaukee, Wis., people, who have instructed A. M. Wehe to contract for about 1,200 ft. of work in shafts, adits and drifts. A steam hoist and other machinery, as well as cars, track, etc., will soon be purchased, and the force of 10 men increased.

FOREIGN MINING NEWS.

AUSTRALASIA.

New South Wales.

Broken Hill Proprietary Company.—Dispatches received in London state that the accounts just completed show a profit for the six months ending May 31st last of £107,563. The net assets amount to £440,802, and the profit and loss account shows a credit balance of £559,100. The amount expended under the heading of construction is £53,146. The refinery is doing good work, and at a reduced cost. The 10,000-ton concentrating plant is expected to be ready in about three months. This half-year's results have been prejudicially affected by the slower smelting of the past half-year extending into this. An extract from the general manager's report for this half-year states that the bricking operations have been successful, a large quantity of material being treated in the furnaces with better bullion recovery.

New Zealand.

(From Our Special Correspondent.)

The export of gold and silver from New Zealand during June, 1899, was valued at £165,175, as against £144,513 for June, 1898. Otago exported £64,022 worth of gold, the West Coast £53,061, and Auckland £53,061. During the six months ending June 30th, the value of the gold exported from the colony was £752,643, being an increase of about £225,000 over the corresponding period of 1898.

In Otago dredging continues to be of a surprisingly remunerative nature, and in consequence the dredging boom continues. During June the returns from 25 or 26 dredges amounted to 4,108 oz., value say £16,000, nearly three-fourths of which may be considered as profit. Many profitable dredges are private concerns, and do not make their returns public.

The West Coast export for the month of June is larger than usual, but the actual production is not at hand, and the increase is no doubt due chiefly to the banks making larger shipments than usual.

The published returns (which are somewhat incomplete) from the Auckland or Hauraki goldfield total £50,921 for the last four-weekly period. To this amount the Ohinemuri mines contributed £44,126, the chief producer being, of course, the Waihi Company, with a return of £24,444 from 7,715 tons, equal to £3 3s. 4d. per ton. Following Waihi come the Waitehauri Company, with £6,743 from 2,543 tons; the Crown Mines, with £6,070 from 2,900 tons, and the Talisman, with £3,214 from 883 tons. The Thames returns total £4,508, the chief producer being the Tararu Creek Company with £1,441 from 1,397 tons. Coromandel has only £2,287, the leading mine being the Hauraki, with £1,030 from 160 tons of quartz and 94 lbs. of picked stone.

During the month the dispute between the Thames-Hauraki Company and the Thames Drainage Board has gone through several phases. After stopping pumping for a few days, the company resumed pumping on the understanding that any outside properties benefited by the operations were to pay a special rate. To those on the spot, it seems that the Thames-Hauraki Company has acted somewhat unreasonably all through, as there can be no question that the Drainage Board is perfectly willing to treat them fairly. It must be remembered, too, that the company has received a special grant of £25,000 from the New Zealand Government. It is reported that a powerful European syndicate, the Standard Exploration Syndicate, is about to take over the Thames-Hauraki property.

During the month a find of molybdenite was reported at Tararu Creek, near the Thames. The discovery, which was made by Mr. F. B. Allen, director of the Thames School of Mines, may prove of some importance. This mineral has not previously been recognized in New Zealand, with the exception of a somewhat doubtful occurrence in the South Island.

The annual meeting of the Waihi School of Mines was held on July 3d. The report showed that the institution had made satisfactory progress during the year. The average number of students during the year was 47.5; number at present attending, 55.

CANADA.

British Columbia—Cariboo District.

Cariboo Gold Fields.—This company has its Campbell hydraulic elevator working in its pit on Williams Creek near Barkerville.

British Columbia—Cassiar District.

Acording to a Seattle dispatch James Hamilton Lewis is to present to the State Department the claims of 1,000 Atlin miners against the Canadian Government as a result of the alien law, and to have the claims embodied in the matter to be considered by the Joint High Commissioners. The amount claimed is $25,000,000, for claims confiscated by the Canadian Government which had been located by Americans.

(From Our Special Correspondent.)

Atlin Placer Mining.—Not less than 1,000 claims are being worked on Spruce, Pine, Boulder, Ruby, Wright, Otter, Cariboo and McKee creeks, with fairly good results. In May and June high water interfered greatly on the creek claims. In most instances bedrock is deep and the only practical way to work the ground is by hydraulicking, and nowhere can conditions be found more favorable for this kind of mining. As a rule the gold is very coarse and easily saved. Some very large nuggets have been found, and a number ranging from 18 to 26 oz. have been taken out. On July 8th in sluicing on 126 below on Spruce Creek, a nugget weighing 84 oz., with over 50 oz. of pure gold was taken out. As a specimen it is valued at $1,200.

Until companies are formed, hydraulic leases granted and capital invested, it is useless for laboring men to come expecting to make a living working for wages. Just now many are leaving disgusted and giving the camp a very bad name. Lieutenant-Governor McInnes, of this Province, is in town and states that leases will be given soon. The decisions of Judge Irving are meeting with the general approval of the old-time miners. Claim jumpers are getting a rough deal, as they should, regardless as to whether they are aliens or not. The titles to Atlin mining property will be straightened out in good shape before fall.

British Columbia—East Kootenay District.

Crow's Nest Coal Company.—Robert Jaffray, president of the company, was recently in Vancouver, where he stated that the company's coke ovens at Fernie are working full blast. Fifty ovens are in operation and sixty more will be completed as soon as a shipment of tunnel heads arrive. This will give the company a capacity of 118 tons of coke per day. Quite recently a new 10-ft. coal seam had been struck. The coal is bituminous making about 4% ash and giving a good heat. The mine is already shipping to Winnipeg. The coke is supplied to the various smelters at Northport, Trail and Hall Mines.

British Columbia—West Kootenay District.

(From Our Special Correspondent.)

Derby.—This company has been formed to acquire and work the Swansea copper group on Windemere Mountain, at an elevation of 5,100 ft. According to the report of W. F. Robertson, provincial geologist, who visited the Swansea in the summer of 1898, the country rock is a quartzose limestone much faulted and broken. Along one of these faults, the rock has been more or less cemented with lime and copper solutions. The copper occurs as carbonates, in masses mixed with the broken rock. These masses as yet have not shown any continuity. A sample assayed 17.5% copper, with no gold or silver values. According to Charles Parker there is a main lode proven for 1,200 ft. and a vertical depth of 75 ft., with a surface width in places of 30 ft. Three pits have been sunk on it. No. 1 is 47 ft. in ore, No. 2 is 75 ft. in ore, and the third shaft is 45 ft. in ore. Sinking is being continued to the 100 ft. level.

Gertrude.—Drifting at 200 ft. level continues.

Homestake.—There are 2 stations, one at the 150 ft. level and the other at the 200 ft. Contradictory reports continue to be made respecting the vein. The superintendent will verify nothing.

Jumbo.—The main tunnel on this Rossland claim is in 300 ft.

Le Roi.—For the 29 weeks ending July 27th the average shipments of ore from this mine amounted to about 1,600 tons weekly. Twenty-six drills are at work.

No. 1.—The station at the 400 ft. level of this Rossland mine has been completed and sinking continues to the 500 ft. level.

Rossland Ore Shipments.—The shipments from Rossland Mines for the 7 months ending July 31st amounted to 77,477 tons, made up as follows: Le Roi, 46,500; War Eagle, 25,125; Center Star, 3,887; Iron Mask, 1,715, and miscellaneous, 250, estimated at $1,500,000 gross.

St. Elmo.—The tunnel at this Rossland claim is being extended. A compressor plant is about to be installed.

White Bear.—The shaft is nearing the 300 ft. level.

British Columbia—Texada Island.

Van Anda Copper Company.—The company's 50-ton smelter at Van Anda is reported completed and running smoothly. The mill, it is said, will be shipped to New York for refining. About 130 men are employed by the company.

Yukon District.

There is a heavy movement of men out of Dawson City, and the local papers at many towns in the United States and in the Provinces are publishing hard-luck tales from returned miners. A recent despatch from Seattle estimates that over 6,000 men have come out from along the Yukon since June 1st, and that 3,000 men will return from various camps in Alaska and the Klondike before September 1st.

MEXICO.

Coahuila.

The Mapimi Branch of the Mexican International Railroad from Bermejillo Junction, on the Tiahuailio branch, to Bermejillo Station (old name Mapimi), on the Mexican Central Railway, opened for business on July 30th.

Nuevo Leon.

Mexican Lead Company.—This company, which has filed incorporation papers in Trenton, N. J., is formed by Robert S. Towne, president of the Mexican Northern Railway Company, and other interests connected with the Compania Metalurgia Mexicana. Charles J. Peabody, of Spencer Trask & Company, is also interested in the new company. It is capitalized at $7,000,000 and will operate lead mines in the vicinity of Monterey, Mexico. The Mexican Northern Railway Company operates a line running into the mining property of the Mexican Lead Company. The same syndicate which controls the railway also operates the Alvarez Land and Timber Company, and the Sombrerete Mining Company. The incorporators of the Mexican Lead Company are all connected with these enterprises.

Mexican Mineral Railroad Company.—This was recently incorporated in Albany, N. Y., with a capital stock of $350,000. The entire road is to be situated within the Nuevo Leon, with the termini at the San Pedro Mining District and Monterey. The directors are George D. Cook, Arthur B. Turner of Chicago, and William F. Gillesby, Robert S. Towne, Charles J. Nourse, Jr., George F. Peabody, Edward M. Shepard, Acosta Nichols and Charles J. Peabody, of New York City.

COAL TRADE REVIEW.

New York Aug. 4.

Anthracite.

In the west the demand for anthracite is as strong as ever, dealers anticipating a great fall and winter business, and in Chicago territory the trade is in better shape than for several years. The receipts of coal at upper lake ports, though ahead of last year's figures at this time do not seem able to keep docks supplied with all the sizes wanted. Lake freight rates apparently will stay up well, in fact September freights down the lakes will be the highest in some years. This being the case, it is likely that a lot of coal will have to go forward by rail. Trade at points between Buffalo and Chicago is reported in very good shape. In the East, business is bound to drag a little for a few weeks. So far as reported, all the principal producing companies cancelled all orders for coal at the June figures not filled on August 1st, and anybody that wants coal now is expected to pay the 25c. advance. As New York and Philadelphia are so near the coal fields that coal can be got forward quickly, dealers will probably wait and see how firmly this 25c. advance is maintained if no orders come in for a month or more. Shipments to Sound ports and points beyond Cape Cod have been very heavy of late.

At the collieries we hear of sporadic labor troubles and more or less unrest among employees. Still it looks now as though the year would go without any general disturbance. Production continues rather heavy for this season of the year, and no doubt considerable coal has gone into storage at Eastern points. Quotations are firm at the July prices.

Notes of the Week.

The Schuylkill Coal Exchange states that its drawn to return price for coal sold in July was $2.32 and that the rate of wages to be paid for the last half of July and first half of August is 6% below the $2.50 basis.

Bituminous.

The volume of business in the seaboard soft coal trade remains large, and the most noteworthy feature of the trade, as last week, is the short supply of cars at the collieries. A great many pressing orders have been shipped, but their places have been taken by others and there is no let up. The smaller class of vessels is in very short supply and shippers have to pay heavily for freight room; in fact captains and owners have asked such high rates that some shippers are withdrawing from chartering small craft. Vessels of 2,000 to 3,000 tons burthen are in good supply, and freight room on such can be had at 5c. below the current rate. The demand from points east of Cape Cod shows no falling off; in fact, it would seem that some consigners are in fear they may not get all the coal they want. At Long Island Sound ports the shortage continues, there has been considerable difficulty in getting boats for this territory, many having been busy on anthracite contracts to be filled before August 1st.

New York harbor trade is quite active. All rail trade is large, though producers are curtailing it as much as possible.

Transportation from mines to tide is fairly good. Car supply is about ¾ what is asked for at the mines. In the coastwise vessel market, vessels are scarce and in demand; we quote current rates from Philadelphia as follows: Providence, New Bedford and the Sound, 75c.; Wareham, 80c.; Boston, Salem and Portland, 80@85c.

Quotations are unchanged at $1.60@$1.65 for best grades at Philadelphia and Chesapeake Bay ports, with 10 or 15c. extra for immediate deliveries.

Birmingham, Ala. July 31.

(From Our Special Correspondent.)

With the exception of a strike at the Brookwood mines of the Standard Coal and Coke Company, to be absorbed shortly by the Alabama Coal and Iron Company, there is no trouble whatever i nthe State of Alabama among the mining camps, and there is plenty of work on hand at all the places. The output is very large, in fact larger for this time of the year than ever before in the history of coal mining in this state. In Jefferson County every mine is working six days a week and some of them are doing more or less night work. In Bibb County and in Walker County the mines are working steadily, and the demand, notwithstanding the warm weather, is very brisk. The mines are receiving a better price for the product and from August 1st the miners in Jefferson and Bibb counties will receive an advance of 2½c. per ton for their work. In this (Jefferson) County the miners will receive 55c. per ton for mining coal, the largest wage paid in years.

There are several new mines getting down to work, and before winter it is believed will be making daily outputs. The strike at the Brookwood mines, in Tuskaloosa County, continues, with little prospect of a settlement. Mr. F. H. Jackson, manager of the mines, states that the contract adopted by the miners in their convention held in Birmingham in June, by which the Tennessee Coal, Iron and Railroad Company and the Sloss Iron and Steel Company abide, made too great a differential with the Brookwood mines, making their cost of production too great to compete with the larger concerns. It is believed, however, that there might be a way of concilitating all.

There has been a slight advance recently in the fuel line. The producers have found it necessary to charge more for their product, inasmuch as labor has become more expensive and other costs have gone up, so that the profits have been dwindling down for some time.

Pittsburg. Aug. 3.

(From Our Special Correspondent.)

Coal.—The coal trade shows a marked improvement compared with last week, and prices are being advanced except on large contracts. James Jones & Sons, one of the largest coal operating firms in the Pittsburg District, have just contracted to furnish 615,000 tons of coal to several large iron firms in this vicinity, one of them being the Carnegie Steel Company. These concerns had contracted for what was thought to be enough fuel for all wants this year, but ran short, owing to increased business. All the large Northwestern contracts are being filled as rapidly as possible, but there are still numerous complaints of a scarcity of cars. The railroads are greatly taxed in carrying the big coal tonnage from this field.

There has been some unavoidable delay in the formation of the railroad coal combination. The promoters, who were confident that the company would be in shape to do business by September 1st, now say that it will be impossible to complete the details before Ohctober 1st. More rapid progress is being made with the river coal combination, and it is confidently announced by the promoters that the Monongahela Consolidated Coal and Coke Company will be ready for business before the close of the month. The appraisers have been at work for several days verifying some options and will complete the work this week. A meeting will then be called and the final details arranged.

Coke.—The production and shipment of coke in the Connellsivlle Region continue to improve and more idle ovens are being put in operation every day. There is great activity in the region in getting idle ovens in shape to fire. The Empire Coke Company, recently organized, yesterday secured a charter. A large coke plant will be erected at once in the Connellsville field and the company will enter the trade aggressively. The company has purchased 100 acres of coal land, about the most valuable in the region, for $100,000. A plant of 100 beehive ovens will be erected at once at a cost of fully $100,000. The demand for coke is now so enormous that producers are forcing their plants to record-breaking outputs. Some operators now regret that they sold their product for months ahead long ago at prices away below those ruling now.

The detailed report of the operation and production of the Connellsville Region last week shows 18,696 ovens, of which 18,146 were active and 550 idle. The estimated production was 191,541 tons, as compared with 190,792 the week previous, which breaks all records ever made in the district.

The shipments aggregated 10,691 cars, distributed as follows: To Pittsburg and river tipples, 3,762 cars; to points east of Connellsville, 1,765 cars; to points west of Pittsburg, 5,164 cars. This is an increase of 453 cars as compared with the shipments of the previous week.

SLATE TRADE REVIEW.

New York. Aug 4.

The reports from the trade continue good. Sales are being made to the home trade in unusually large quantities, and quarries have some difficulty in keeping up with orders. Stocks are very low, and most orders have to go to the quarry. There is less complaint of shortage of labor, some of the operators having secured all the men they need, though others say that they could still put on more. The wet weather has interfered a little with operations, but not seriously. Cost of production has been increased in some districts by the necessity of paying higher wages. The present demand is especially strong for sea-green and other tinted slates, for which a strong fancy seems to have set in.

Mill stock is also in good demand; both slabs and material for tubs, etc., have found a larger sale than for some time past.

School slates and blackboards show about the usual demand, with no new features.

Export trade continues fair. Shipments are being made on orders received some time ago, but there are few new orders coming in. The never-ending discussion of freight rates has apparently been postponed until fall.

Freight rates are about as follows from New York: To London, 12s. 6d. ($3) or about 86c. per square roofing slate; Liverpool, 12s. 6d.; Manchester, Bristol, Leith and Glasgow, 15s. ($3.60), or $1 per square; Hamburg, 12s. 6d. prompt, and 15s. near future; Copenhagen, 16s. 3d. ($3.90), or $1.11 per square; Newcastle and Hull, 17s. 6d. ($4.08), or $1.47 per square; Denmark, Stettin, 17s. 6d., all with a 5% primage per ton weight. To Bremen the rate is 15s. net ($3.60), or $1 per square. To Sydney, New South Wales, 15s. net is asked for roofing slate in cases or in bulk.

Prices of Roofing Slate.

Size, Inches	Monson or Brownville.	Bangor.	Bangor Ribbon.	Alb'n, or Jackson Bangor.	Lehigh.	Peach Bottom.	Sea Gr'n.	Unfad'g Green.	Red.
	$	$	$	$	$	$	$	$	$
24 x 14	6.10	3.50	3.00	3.35	3.40	4.85	3.00	..	.....
24 x 12	6.60	3.50	3.00	3.35	3.40	5.00	3.00	3.75	.....
22 x 12	6.60	3.50	3.25	3.50	..	5.00	3.00	3.75	.....
22 x 11	6.50	3.75	3.25	3.50	3.40	5.00	3.00	4.00	.....
20 x 12	6 90	3.75	.....	3 50	3.40	5.00	3.00	3.75	.....
20 x 11	6.80	.....	.....	4.00	..	5.00	3.00	..	.....
20 x 10	6.80	4.50	3.50	4.00	3.75	5.10	3.25	4.25	9@10¼
18 x 12	6.80	3.75	.....	3.50	..	..	3.60	3.50	.....
18 x 11	7.00	....	..	..	..	...	3.00	3.75	.....
18 x 10	7.20	4.50	3.50	4.00	3.75	..	3.00	4.00	9@10¼
18 x 9	7.10	4.50	3.50	4.00	3.75	5.10	3 00	4 25	9@10½
16 x 12	6.80	3.75	..	3.50	..	..	2.85	3.50	.....
16 x 10	7.10	4.25	3.50	4.00	3.75	5.00	2.85	4.00	9@10¼
16 x 9	7.00	4.25	.....	4.00	3.75	5.10	2.85	4.25	9@10½
16 x 8	7.20	4 50	3.50	4.00	3.75	5.10	2.85	4 25	9@10½
14 x 10	6 60	3.75	3.25	3.35	....	5 00	2.75	3.75	9@10½
14 x 9	6.50	....	....	.....	....	....	2.75	3.75	9@10½
14 x 8	6 60	3.75	3.25	3.35	3.40	4.85	2.75	4.25	9@10½
14 x 7	6.40	3.75	3.25	3.35	3.40	4.85	2.50	4.25	9@10½
12 x 10	5.80	....	.. .	....	.....	...	2.50	3.25	.....
12 x 9	5.60	....	.....	....	....	...	2.50	3.25	.....
12 x 8	5.50	3.50	.....	3.35	3.25	4 60	2.50	3.50	8¼@9
12 x 7	5.00	3.25	.....	3.35	3.25	4.60	2.50	3.50	8¼@9
12 x 6	4.80	3 25	.	3 35	3.25	4.50	....	3 50	8¼@8¼

A square of slate is 100 sq. ft. as laid on the roof.

In Brownville and Monson delivery quotations can be had somewhat lower than above, which is also true of other brands. No. 1 Bangor are 50c. extra when full 3-16 in. thick, and Peach Bottom 25c. extra per square. Intermediate sea green, $2.25@$2.45 per square, according to size.

CHEMICALS AND MINERALS

(For further prices of chemicals, minerals and rare elements, see page 180.)

New York. Aug. 4.

The market still continues generally quiet, and not much change is expected till September. August is usually a trying month in New York, and most people try to get along with as little work as possible. The chemical trade is no exception.

Pyrites.—The supply of imported pyrites is not large, and it is hard to secure large lots, most of the material to arrive being already contracted for. This is also the case with the output of domestic mines. We quote American pyrites as follows: Mineral City, Va., lump ores, $3.25 per long ton (basis 42%), and fines, $3; Charlemont, Mass., lump, $5.50, and fines, $4.75; Pilley's Island, lump, $6.50, and fine, $4.50 per long ton, delivered in New York. Spanish pyrites, 12@14c. per unit, according to percentage of sulphur contents, delivered ex-ship New York and other Atlantic ports. Spanish pyrites contain from 46 to 51% of sulphur; American, 42% to 44%, and Pilley's Island, N. F., 50%.

Heavy Chemicals.—Buying is limited for immediate consumption, but for next year's delivery orders are still booked for domestic caustic soda. Bleaching powder, owing to the warm weather, is in request. Chlorate of potash is still easy. Prices generally show no change, and are given below:

Articles.	Domestic.		Foreign.
	F.o.b. Works.	In New York.	In New York.
Alkali, in bags.	67½@70c.	80@85c.	80@85c.
Caustic Soda, high test....	$1.55@$1.65	$1.60@$1.65	$1.60@$1.70
98% powd....	.....	2 75@ 3.00	.. . .
60@74 % powd.	.....	2.12½@ 2.25	.....
Sal Soda	70c.	....	62½@70
" conc.	1.00@1.35	....	1.60@1.65
Bicarb Soda..	1.12½@1.25	.....	2.12½@2.25
" " extra	3.25@3.50	.....	
Bleach. Pdr., Eng. prime..	.....	....	1.42½@1.50
other br'nds.	....	....	1.25@1.35
Chl. Pot cryst	....	9.25@9.50	9.50@9.75
" powd.	....	9.75@10 00	10.00@10.25

Prices are generally for large quantities, and in many cases depend upon make, test and package.

Acids.—Prices show no change this week, and there is only a moderate business doing. The question of raising quotations has been postponed for the present. Some inquiries for sulphuric acid are reported.

Blue vitriol continues rather unsettled and offerings are again said to have been made at a shade below quotations.

There is some excitement in copperas, offerings of large quantities having been made by agents in New York representing a new producer whose identfty is not disclosed. The works are said to be near Pittsburg.

Quotations are in large lots delivered in New York and vicinity, per 100 lbs. unless otherwise specified.

Acetic, com. No 8.	$1.50	Nitric, 38°.....	$3.75@ 3.80
Blue Vitriol, best	5.25	Nitric, 40°.....	4.00@ 4.05
Chamber, 50°, ton.	11.50@12.00	Nitric, 42°.....	4.62@ 4.65
Muriatic, 18°.	1.10@ 1.15	Oxalic	6.25
Muriatic, 20°.	1.20@ 1.25	Sulphuric, 66°....	1.10@ 1.15
Muriatic, 22°.....	1.35@ 1.40	Sulphurous, 100% SO_2 anhydrous.	8.00@10.00
Nitric, 36°	3.50@ 3.55		

Brimstone.—The market is uneventful. Demand continues fair and prices unchanged. Spot best unmixed seconds can be had at $21.75@22 per ton, and shipments at $20.50@$20.75, while thirds are quoted from $1.75@$2 per ton less.

Fertilizing Chemicals.—Demand continues uninteresting and prices soft, except for gas sulphate of ammonia.

Articles.	F. o. b. Wks.	In N. Y.
Potash, muriate, 80@85% 100 lbs.	.....	$1.78
" " 95% "	.....	1.81
" sulphate, 90% "	.....	1 98½
" " 96% "	....	2.10½
" d'ble m're salt, 48@53% 100 lbs.	....	66c.
" " " 30% "	....	89c.
" kainit, 12.4% long ton.	.....	8.70@8.95
" sylvanit.. per unit.	....	37@38c.
Sulph. Am., gas (25%)... 100 lbs.	.....	3 12½@3.20
" " bone..... "	.....	2.90@2.95
Blood, dried, h-gr, Chi. per unit	$1.77½@1.80	.....
" " N.Y., "	....	1.82½@1.85
Azotine..... "	... .	1.85@ 1.95
Bone black, diss., 17@18%...ton	.....	16.00@16.50
Fish scrap, acid ..... "	10.50@11.00	12 50
" " dried .... "	19.50@20	21 50
Tankage h. gr., Chicago.... "	16½@17.00	21.00
" concentrated.. unit.	1.45@1.50	1.90@1.95
" bone. . ..... ton.	.....	20.00@21.00
Bone, ground .. .. "	....	23.50@25.00

The quotations on potash are on the basis of foreign invoice weights, tares and analysis, in quantities of not less than 500 tons bulk salts or 50 tons concentrated salts.

Phosphates.—There is little change in demand, but offerings of high-grade rock are small. The rock now being mined is all contracted for, and new orders cannot be placed. No Florida land pebble is offering, as miners are under contract; hence quotations are nominal. In Tennessee fields increased operations are noted, especially among exporters. In South Carolina a like condition exists.

Messrs. Auchincloss Brothers report shipments of Florida high-grade phosphates in June at 20,551 long tons from Fernandina and 2,500 tons from Savannah. Shipments for the six months ending June 30th were, in long tons: To United Kingdom, 23,597 tons; Baltic ports, 70,410; other Continental ports, 132,663; Mediterranean ports, 2,534; total foreign, 229,204; domestic, 5,673; total shipments, 234,877 tons. This is an increase of 76,082 tons, or 47.9%, over last year.

The Charlotte Harbor Lighterage and Stevedore Company reports shipments of 7,800 tons of Florida phosphates from Punta Gorda in July. For the seven months ending July 31st shipments were: Foreign, 31,480 long tons; domestic, 25,066 tons; total, 56,546 tons. This was all shipped by the Peace River Phosphate Company.

Latest quotations for American phosphates, delivered c. i. f. United Kingdom or North Sea ports, are as follows, per unit: Florida, high-grade rock, 77@80%, 9¼d., all positions (about $14 per long ton); Florida land pebbles, 68@73%%, 8d. (about $11.20 per ton); Florida Peace River, 58@63%, 7½d. ($9 per ton); Tennessee, 78@80%,

8d. ($12.64 per ton), while Algerian, 63@70%, is quoted 7¼d. ($9.38 per ton), and 58@63%, 6¾d. ($7.80 per long ton).

We quote: Florida high grade, 75@80% rock, $10 per long ton f. o. b. Fernandina. The freight rate to New York is about $2 per ton. Florida land pebble, 68@73%, $7@$7.50 per ton, delivered in New York. Florida Peace River rock, 58@63%, $4.50 per ton f. o. b. Punta Gorda. South Carolina, hot-air dried, $4.50 per ton f. o. b. Fetteressa, S. C. Tennessee phosphate rock, 75% av., $3.50@$4 f. o. b. mines for export, guaranteed 78% bone phosphate of lime and 3@4% iron and alumina (ex-vessel New York, $9@$10), and $3@$3.50 for domestic brown, and $1.90@$2 f. o. b. for blue or Hickman County rock. The difference in the price of this phosphate and Florida high grade is owing to the higher percentage of iron and alumina in the Tennessee rock. Concentrated phosphates, 13@15% av., P^2P^5 60@62½c. per unit at sellers' works. Acid phosphates, 60c. per unit at sellers' works in bulk.

Nitrate of Soda.—We still have talk of higher prices, but dealers continue to take orders at $1.57½@$1.62½ per 100 lbs., while the spot stock is offering at $1.60@$1.62½, and one or two large sellers ask $1.65 per 100 lbs.

Messrs. Mortimer & Wisner's monthly statement of nitrate of soda gives the following statistics of date August 1st:

	1899.	1898.	1897.
	Bags.	Bags.	Bags.
Imp. into Atlantic ports from West Coast S. A., from Jan. 1 to date.	473,871	475,985	294,241
Imp. from Jan. 1 from Europe	.....	55,171	.....
	473,871	531,156	294,241
Stock in store and afloat Aug. 1, in New York.	57,368	76,856	99,741
Boston	.....	.....	2,080
Philadelphia	14,600	.....	.....
Baltimore	14,581	.....	3,000
Norfolk, Va.	.....	.....	.....
Charleston	.....	.....	.....
To arrive, due Nov. 15, 1899.	201,000	353,000	250,000
Vis. supply to Nov. 15, 1899.	287,549	429,856	354,821
Stock on hand Jan. 1, 1899.	58,406	15,383	123,593
Deliveries past month	83,455	53,638	44,070
Deliveries since Jan. 1	445,728	469,683	318,093
Total yearly deliveries	.....	967,525	710,971
Prices current, Aug. 1	1.62½	1.50c.	1.67½

Liverpool. July 18.

(Special Report of Joseph P. Brunner & Co.)

There is no special feature to report with respect to market for heavy chemicals, with the exception of the advance announced to-day in caustic soda quotations.

Soda ash in moderate compass, and in some cases makers are refusing orders for certain markets, having little to sell. We quote maximum range for tierces about as follows: Leblanc ash, 48%, £4 5s.@£4 10s. per ton; 58%, £4 10s.@£4 15s. per ton net; ammonia ash, 48%, £4@£4 5s. per ton; 58%, £4 5s.@£4 10s. per ton net cash. Soda crystals find a ready sale, and for barrels £2 17s. 6d. per ton, less 5%, is generally quoted, with an allowance of 7s. per ton if taken in bags.

Caustic soda has to-day been advanced 10s. per ton, and is in very moderate supply for prompt delivery, unbarred makes being exceptionally scarce. The advanced quotations are as follows: 60%, £6 10s.; 70%, £7 10s.; 74%, £8; 76%, £8 5s. per ton net cash.

Bleaching powder keeps quiet in tone, but £4 15s. per ton is still bottom price quoted on this market for most quarters. Chlorate of potash is rather slow, although unchanged in price at 3½@3⅝d. per lb. for crystals and 3⅝@3¾d. per lb. for powdered, as to quantity.

Bicarb. soda in fair request at varying prices, according to market, ranging from £5 5s. to £6 15s. per ton, less 2½%, for the finest quality in 1 cwt. kegs, with usual allowances for larger packages.

Sulphate of ammonia dull and a shade easier at about £12 5s.@£12 7s. 6d. per ton, less 2½%, for good gray 24@25% in double bags f. o. b. here.

Nitrate of soda in light demand, at £7 17s. 6d. @£8 per ton, less 2½%, for double bags f. o. b. here, as to quantity and quality.

IRON MARKET REVIEW.

NEW YORK, Aug. 4, 1899

Pig Iron Production and Furnaces in Blast.

Fuel used	Week ending Aug. 5, 1898		Week ending Aug. 4, 1899		From Jan. '98	From Jan. '99.
	F'ces.	Tons	F'ces	Tons.	Tons	Tons.
An' racite	24	19,229	40	35,350	731,351	858,777
Coke	142	222,200	164	223,150	6,238,491	6,594,405
Charcoal.	19	6,657	20	6,250	180,288	158,735
Totals..	185	248,086	224	264,750	7,150,133	7,611,917

While the iron market has not been marked by any special incidents this week, it can hardly be said that the upward tendency of prices has been checked. The tendency to make concessions on contracts seems to have practically disappeared and some large consumers are placing orders running well into 1900 at prices equal to or very little below those now prevailing. Belated purchasers are having a pretty hard time of it, and it is extremely difficult to secure early deliveries at any price.

The contracts running over the end of the present year which have been placed so far are chiefly for pig iron. A strong demand continues for iron for September-December deliveries and very high prices are being paid. Thus we have to report this week quotations of $16, f. o. b. furnace, for No. 1 Alabama foundry and of $21 at Valley furnace or $21.75 Pittsburg for Bessemer pig. We have heard of an offer of $23 being made for Bessemer pig and refused, because the party offering it wanted early September delivery.

Perhaps the greatest present pressure is for steel billets and as high as $34@$34.50 Pittsburg has been paid on two or three contracts of considerable size. Steel rails have been advanced and quotations are now $32 at mill for standard sections. This price seems high but we still have the anomaly of rails selling $2 and more below the price of billets—a condition quite unprecedented in the trade.

The greater number of contracts now on the market or recently placed for finished material are for structural steel. A great many new buildings are going up, and some parties who have been holding back for lower prices have given it up and decided to take the best quotations they could secure.

Export inquiries continue to come in, though little actual business has been closed. The difficulty, however, seems to be more in the impossibility of giving early deliveries than in the prices, of which foreign buyers seem to take very little account just now.

A good deal of structural work, both bridges and buildings, is going abroad and some of our large firms have a number of such orders on the books for foreign countries. The latest contracts of this kind on the market are from South America, principally from Chile and Peru. Some Japanese work is also under negotiation.

Birmingham Ala. July 31.

(From Our Special Correspondent.)

The pig iron market in the Birmingham district is acknowledged by the furnacemen to be in first class condition. The stocks of pig iron on hand will be smaller August 1st than they have ever been before in Alabama. The decrease in stocks during the month of July has been considerably greater than in June. The furnaces cannot begin to fill all orders promptly. During the past week some of the furnace companies saw fit to move off some iron from the warrant yards, being unable themselves to supply the demand, though it was not for a large amount.

Mr. J. W. McQueen, secretary of the Sloss Iron and Steel Company, says there was no iron on the yards hereabout and that the demand was very brisk.

The quotations are high and yet stiff. There have been rumors for the last week and more that prices have been advanced, but the furnacemen deny that there has been any advances as have been given publicity to.

The following are the quotations given for the product: No. 1 foundry, $16; No. 2 foundry, $15.50; No. 3 foundry, $15; No. 4 foundry, $14; gray forge, $13.50; No. 1 soft, $16; No. 2 soft, $15.50.

The announcement made here last week of the new deal which forms a new company, to be known as the Sloss-Sheffield Steel and Iron Company, taking in the four furnaces of the Sloss Iron and Steel Company, the Hattie and Lady Ensley furnaces at Sheffield, and the Philadelphia furnace at Florence, besides the ore properties of the Russellville Ore Company and the American Coal Company and all the coal mines, lands and coke ovens of the Sloss Iron and Steel Company, was not unexpected. The new company is to be capitalized at $20,000,000, and there will be sufficient to make additional purchases and to put the different plants in full operation. The Sloss Iron and Steel Company now has 3 of its 4 furnaces in blast and is making quite an amount of iron. There are a number of big orders on hand and every effort is being made to keep up with the demand.

There is a big demand for finished iron and both the rolling mills in this section of the country are at full tilt and unable to keep up with the demand. The foundries and machine shops right at home are still complaining of the slow delivery on the part of the rolling mills. The latter claim that they are doing the best they can, though but little time is being lost. The repairing of parts of machinery occasionally causes a delay at the mills and some of the departments run slack for a few days.

The work at the big steel plant at Ensley goes on steadily. The little army of men employed there are not losing much time and the completion of the big institution is now the next looked for event.

Buffalo, N. Y. August 1.

(Special Report of Rogers, Brown & Co.)

We quote for cash f. o. b. cars Buffalo: No. 1 strong foundry coke iron, Lake Superior ore, $21@$22; No. 2 strong foundry coke iron, Lake Superior ore, $20@$21; Ohio strong softener No. 1, $20.50@$21; Ohio strong softener No. 2, $20@$20.50; Jackson County silvery No. 1, $27; Southern soft No. 1, $21; Southern soft No. 2, $20; Lake Superior charcoal, $22; coke malleable, $21.

Cleveland, O. August 2.

(From Our Special Correspondent.)

Iron Ore.—Nothing worthy of special note has been done in the iron ore market during the past week. A few small sales of small lots have been made, but there was no disposition anywhere to offer any large amounts. No agent of the mining companies will feel safe in doing this for several weeks yet. An active movement is still being maintained in the matter of shipment from the upper Lake ports. No less than 15,000,000 tons of ore are to be shipped before navigation closes in November, and the result is that shippers have been compelled to pay higher rates from the head of Lake Superior. The rate is now $1 per ton from the head of Lake Superior, while the rate from Marquette has gone up to 90c. From Escanaba the rate still remains at 75c., but it is expected to rise to 80c. within the next few days.

The quotations are as follows: Specular and magnetic ores, Bessemer quality, $4@$4.25; specular and magnetic ores, non-Bessemer, $3.25@$3.75; red hematite ores, Bessemer quality, $3.75@$4.25; red hematite ores, non-Bessemer quality, $2.75@$3.25.

Pig Iron.—The quotations given for the pig iron market are merely nominal, no sales of any kind being made. The reason for this is that there is none to offer for sale, and the manufacturers find themselves short. All furnaces are doing their best in the matter of production, but are not able to meet the present demands. Very little iron will be available for delivery soon. The market for every kind and grade of iron is very firm, at advanced prices. Values are already so high that further advances can hardly be expected. The following are the present quotations for iron f. o. b. Cleveland: Lake Superior charcoal, $22; Bessemer, $20.50@$20.75; No. 1 foundry, $20.25; No. 2 foundry, $19.75; No. 1 Ohio Scotch, $20; No. 2, $19.50; gray forge, $18.

Philadelphia. Aug. 3.

(From Our Special Correspondent.)

Pig Iron.—The only point to draw attention to in the pig iron market this week is the unobtrusive efforts of a few very large consumers to make arrangements and terms for winter deliveries of Bessemer, forge and all grades of foundry irons. Very little material has been sold. Offers have been refused, and even some makers have declined to be bound by promises of any kind. No. 1 X foundry is nominally $21@$21.50; No. 2 X foundry, $20.50; gray forge, $18@$18.25. Other kinds have no reliable quotations. A lull of at least two weeks is looked for, but there is a great deal of nervousness beneath the surface over the ugly indications as to supplies and prices.

Billets.—Large lots of billets have been contracted for late fall and winter delivery, but at prices which neither side will give. Quotations are $36@$37, and producers are all very much aroused.

Muck Bars.—Large quantities of muck bars have been contracted for, and a long-idle city mill is resuming to make muck bars.

Merchant Bars.—There is nothing whatever new in the bar iron market. Prices are very firm, and if mill men could make promises they could get higher prices. Common iron is 1.90c.; refined, 2@2.10c.; tested, 2.15c.; special steel bars, 2.20@2.25c.

Skelp.—Considerable skelp has been asked for by both Eastern and Western buyers, and 3c. was the contract price on one order to-day.

Sheets.—There are no new developments in the sheet branch. Mills are much oversold and there is the usual pressure from outsiders for the best favors possible. A further advance to 4c. for No. 28 is imminent.

Plates.—From the very guarded statements made by two or three representative brokers it appears there is a revival of negotiations regarding the placing of large orders for bridge and building material, including considerable new work for New York delivery. It is impossible to add anything regarding prices.

Structural Material.—There are new inquiries for some very large lots of structural material, but the outside talk is that only hand-to-mouth deliveries will be undertaken for this month. The market is disturbed by rumors of one kind and another. The desire of those who control the market is to get caught up as nearly as possible before loading up with new orders. Quotations are 2.10@2.25c.

Steel Rails.—No new developments. Quotation, $30 for standard sections.

Old Rails.—Higher by 50c. under urgent inquiries.

Scrap.—Instructions and requests are coming in for the purchase of various sorts of scrap; mostly large quantities are wanted by large consumers.

Pittsburg. Aug 3.

(From Our Special Correspondent.)

The iron and steel markets have been cleared up of almost all available material, and several manufacturers are suffering from the shortage. Some may soon be compelled to close their plants or lay off some of their men. Sales of pig iron have been few and at highest prices. While $20 is given as the association price for Bessemer pig iron in the Valleys, the last sale was reported at $20.25. The agents of the association say there is no metal for sale, and the quotation is nominal. It is predicted that the price is to be fixed at $21 in the Valleys, which will make it $21.75 in Pittsburg. There have been few sales of foundry iron. The price quoted is $20.25 @$20.75. A lot of No. 2 for immediate delivery was sold this week for $21.40. Several small sales of charcoal iron were made this week at the prevailing prices. Prices of steel plates have stiffened, although there is no decided advance. Light rails have sold at $42 a ton, and standard sections at $32. There is no muck bar in the market, but it is quoted at 2.25c. The scarcity of puddlers and strikes at two local mills have resulted in restricting the output. The demand for muck bar is several months ahead of the production. The National Steel Company, it is reported here, has two blast furnaces at Youngstown ready for lighting, has broken ground for a third, and is preparing plans for a fourth.

Pig Iron.—The demand is still in excess of the supply, and prices are quoted at $20.75, with the probability of an advance of at least $1 a ton before another week. Pig iron in the Valleys is firm at $20.

Steel.—The demand for steel billets has increased and prices have advanced $1 a ton. Billets are quoted to-day at $34.50@$35. Some steel is being resold. Slabs are quoted at $35@$36 a ton. It is unusual for slabs to bring a higher price than billets. Bars are about the same as last week's prices, ranging from 2.05c. to 2.15c.

Sheets.—An advance of $1 a ton has been made in sheet steel during the week, and No. 28 gauge is now quoted at 3.10c. a pound. Galvanized sheets remain the same as last week—70 and 5% off.

Ferro-manganese.—Domestic 80% is still quoted at $85 and the demand is good.

Structural Material.—No change in prices has occurred during the week, but the demand is much better.

New York. Aug. 6.

There is no change of note in the local market. Prices are uniformly firm and dealers now begin to look forward to present prices for business in the first half of 1899. In foreign business in the firsa half of 1900. In foreign business and a lot of railroad material from Brazil; orders for steam pumps, iron pipe and $9,000 worth of agricultural tools, and an inquiry for 8,000 tons of steel rails from Mexico; some good orders for mining machines from Chile and continued orders for agricultural machinery from France.

Pig Iron.—The market stays firm and iron is just as hard to get. Some contracts into 1900 are reported, though as yet there is little disposition to make these. We note contracts till June, 1899, at $15 f. o. b. furnace for No. 2 foundry. We quote, for Northern brands, tidewater delivery: No. 1 X foundry, $21; No. 2, $20. Southern brands New York delivery: No. 1 foundry, $21; No. 2 foundry, $20; No. 1 soft, $20; No. 2 soft, $19; No. 3, $18.

Warrant Irons showed a slight decline, Alabama No. 2, $15.50 to $15 and No. 3, $13.75 to $13.50. No. 4 and grey forge were steady at $12.75.

Bar Iron.—There is no change in demand and the market is firm. We quote refined iron 2.15c. in large lots on dock, and common, 2c.

Plate.—The local demand remains but moderate, prices are unchanged and firm. We quote large lots at tidewater: Tank, ¼-in. and heavier, 2.75@2.85c.; tank, 3-16 in., 2.85@2.95c.; shell, 2.85@2.95c.; flange, 2.95@3c.; marine, 3@3.10c.; firebox, 3.10@3.20.; universals, 2.70c. Higher prices will be asked for pressing deliveries.

Structural Material.—There is no change in the demand for all kinds of structural material; it remains good. We quote for large lots at tidewater: Beams, 15-in., 2.25c.; tees, 2.25@2.35c.; channels, 2.25c.; angles, 2.20@2.30c.

Steel Rails and Rail Fastenings.—The quotation for rails has advanced to $30@$32 for standard sections f. o. b. Eastern mills. Small rails are nominally quoted: 12-lb., $36; 16-lb., $36; 20-lb., $35; 30-lb., $34; 40-lb. to standard, $32, with the usual advance for small orders. Angle bars are 1.85c.; spikes, 1.95c., and bolts, 2.25c.

Nails.—Demand is moderate. The increase in price has not checked buying materially. Wire nails are $2.75@$2.80 for large lots on dock. Cut nails are $2.45@$2.50.

METAL MARKET.

NEW YORK, August 5, 1899.

Gold and Silver.

Gold and Silver Exports and Imports

At all United States ports in June and year.

	June. 1898.	June. 1899.	1898.	1899.
GOLD.				
Exports	$375,529	$20,908,327	$6,226,192	$27,203,119
Imports	3,330,612	3,105,686	92,372,070	23,050,019
Excess	I. $2,955,083	E. $17,802,641	I. $86,145,888	E. $4,153,100
SILVER.				
Exports	4,166,650	3,843,099	24,607,397	27,569,918
Imports	2,028,803	1,917,215	12,893,039	13,921,403
Excess	E. $2,137,847	E. $1,925,884	E. $11,714,958	E. $13,648,515

This statement includes the exports and imports at all United States ports, the figures being furnished by the Treasury Department.

Gold and Silver Exports and Imports, New York

For the week ending August 3d, 1899, and for years from January 1st, 1899, 1898, 1897, 1896.

Period.	Gold. Exports.	Gold. Imports.	Silver. Exports.	Silver. Imports.	Total Excess, Exp. or Imp.
We'k	$10,000	$370,665	$363,890	$92,357	I. $289,133
1899..	11,545,118	7,989,840	16,285,110	2,675,432	E. 17,760,956
1898..	4,458,463	69,036,930	19,846,623	1,949,958	I. 46,581,802
1897..	28,045,116	2,445,671	30,619,527	1,256,407	E. 54,962,565
1896..	40,327,798	17,494,397	22,114,713	1,388,102	E. 43,560,012

Exports of gold were to the West Indies; of silver to London. Imports of gold were from various sources; of silver from Mexico and South America.

The United States Assay Office in New York reports the total receipts of silver at 53,000 oz. for the week.

Prices of Foreign Coins.

	Bid.	Asked
Mexican dollars	$ .48	$ 49
Peruvian soles and Chilean pesos	.43	.46
Victoria sovereigns	4.86	4.89
Twenty francs	3.88	3.92
Twenty marks	4.78	4.83
Spanish 25 pesetas	4.78	4.84

Average Prices of Silver per oz. Troy.

Month.	1899. Lond'n Pence.	1899. N. Y. Cents.	1898. Lond'n Pence.	1898. N. Y. Cents.	1897. Lond'n Pence.	1897. N. Y. Cents.
January	27.42	59.36	26.29	56.7	29.74	64.79
February	27.44	59.42	25.89	56.0	29.68	64.67
March	27.48	59.64	25.47	54.90	28.96	63.06
April	27.65	60.10	25.95	55.02	28.36	61.85
May	28.15	61.23	26.31	56.98	27.86	60.42
June	27 77	60.43	27.09	58.61	27.58	60.10
July	27.71	60 26	27.32	59.06	27.36	59.61
August			27.48	59.54	24.93	54.19
September			28.05	60.68	25.66	55.74
October			27.90	60.42	26.77	57.57
November			27.93	60.60	26.87	57.93
December			27.45	59.42	26.83	58.01
Year			26.76	58.26	27.55	59.79

The New York prices are per fine ounce; the London quotation is per standard ounce, 925 fine.

Average Prices of Metals per lb., New York

Month.	COPPER. 1899.	COPPER. 1898.	TIN. 1899.	TIN. 1898.	LEAD. 1899.	LEAD. 1898.	SPELTER. 1899.	SPELTER. 1898.
Jan	14.75	10.99	22.48	13.87	4.18	3.65	5.34	3.96
Feb	18.00	11.28	24 20	14 08	4.49	3.71	6.28	4.04
March	17.54	11.98	23.82	14.38	4.37	3.72	6.31	4.25
April	18.43	12.14	24.98	14.60	4.31	3.63	6.67	4.26
May	18.25	12 00	25.76	14.52	4.44	3.64	6.88	4.27
June	17.93	11.89	25.85	15.22	4.42½	3.82	5 98	4.77
July	18 33	11.63	29.63	15.60	4.52	3.95	5.82	4.66
August		11 89		16.23		4.00		4.58
Sept		12.31		16.03		3.99		4.67
October		12.41		17.42		3.78		4.98
Nov		12.86		18.20		3.70		5.29
Dec		12.93		18.30		3.76		5.10
Year		12.03		15 70		3.78		4.57

The price given in the table is for Lake Copper. The average price of electrolytic copper in January was 14.26c.; in February it was 17.02c.; in March, 16.35c.; in April, 17.13c; in May, 17. 20 c.; in June, 16.89c.; in July, 17. 099c.

Financial Notes of the Week.

The reports from all points show a very large volume of trade, with unusual activity for the season. The speculative markets are dull, but this does not affect general business to any extent. The country is prosperous enough to absorb an enormous quantity of goods of all kinds; and as long as this condition lasts business will be good.

Money is higher and the banks are generally decreasing their loans in readiness for the special demand for cash from the interior, which always sets in in late August and continues through September. It is to be expected that interest will be higher and money harder to get for some months to come—perhaps longer. Rates in London, Paris and Berlin are higher than here. The fact is that business is active all over the commercial world, and the demand for money is large. It is altogether that it should bring a higher price while this condition lasts. In this country we have not only this

Imports and Exports of Metals.

Port.		Week, Aug. 2. Expts.	Week, Aug. 2. Impts.	Year, 1899. Expts.	Year, 1899. Impts.
*New York.					
Aluminum	long tons			302	12
Antimony ore	" "		‡22		926
" regulus	" "				590
Brass	" "	13		70	
Chrome ore	" "				1,958
Copper, fine	" "	1,326	420	32,166	13,591
" matte	" "			556	683
" ore	" "		5,832		16,231
" ash	" "		5	20	161
" sulphate	" "			11,403	
" other	" "				30
Cop-nickel matte	" "				53
Ferro-mangan'se	" "			15	136
Iron ore	" "				50
" pig, bar, rod	" "	34	72	3,784	1,476
" pipe	" "	239		19,607	
" plates, sheets	" "			712	15
" other	" "			1,115	
Lead	" "	1,543		33,531	29,962
Manganese, ore	" "				3,291
Metals, old scrap	" "	34	73	2,824	1,825
Composition	" "			4,857	71
Nails	" "	950		12,236	
Nickel	" "		5	1,142	728
" Ore	" "				4,020
§Railr'd material	" "	166	230	6,019	2,493
Rails, old	" "	2,522		14,737	
Spiegeleisen	" "				342
Steel bars, plates	" "	1, 828	‡115	32,228	9,856
" rails	" "			38,863	155
" hoops	" "	17		503	
" wire	" "	610	182	22,116	660
" not speci'd.	" "		69	9,597	9,666
Tin	" "		1,035		16,218
" dross or ashes	" "			60	
" and black plates	" "		1245		20,858
Zinc	" "			272	256
" dross	" "	68		340	
" ashes, skim	" "	37		1,608	85
" ore	" "			4,231	
" oxide	" "	45		2,477	288
†Baltimore.					
Alumina	bags				3,479
Antimony regulus	casks				252
Chrome Ore	long tons			11	
Copper, fine	" "	763		21,234	
" matte	" "				
" sulphate	" "			1,482	
" pipe	" "			100	
Ferro-manganese	" "				1,737
Ferro-silicon	" "			184	
Iron pig, bar, etc.	" "		100	808	4,014
" ore	" "		9,805		110,089
" pyrites	" "		4,446		41,007
" pipe	" "			2,881	
Manganese ore	" "				21,609
Metals, scrap	" "			4,413	14
Nails	" "			485	
Pipe, iron & steel	" "	710		4,236	
Spiegeleisen	" "				843
Steel, bars, pl'es	" "	393		25,316	56
" wire	" "	109		730	231
" rails	" "			33,675	
not specified	" "	49		1,923	4
Tin	" "			563	
" dross	" "				
" and blackplates	" "		241		1,601
Zinc	" "			25	5
" dross	" "			172	
" skimmings	" "			131	
" oxide	" "				
*Philadelphia.					
Antimony	long tons				10
Chrome ore	" "		1150		1,770
Copper ore	" "				26,354
old	" "				11
Ferro-manganese	" "		175		1,167
Ferro-silicon	" "				160
Iron, pig	" "				675
" ore	" "		7,159		96,534
" pyrites	" "				2,150
Manganese ore	" "		4 300		43,403
Spiegeleisen	" "				1,520
Tin	" "				700
" and black plates	" "		104		1,332
Zinc dust	" "				15
" ore	" "			3,093	

Total United States.§§

Articles.		June. Expts.	June. Impts.	Jan.—June. Expts.	Jan.—June. Impts.
Antimony	long tons		88		616
" ore	" "		118		832
Copper fine	" "	6,044	3,990	47 274	11,925
" sulphate	" "	1,367		10,743	
Iron, pig & bar	" "	16,725	4,045	149,263	19,716
" ore	" "	2,228	43,762	3,709	212,902
" rails	" "	17	1	17	50
Iron & steel plates	" "	4,595	398	35,180	935
" " wire	" "	8,396	232	56,190	1,409
Steel, billets, rods, etc	" "	1,736	1,178	53,532	12 109
Steel rails	" "	19,506	379	113,069	523
Lead, pigs, bars & old	" "	4		154	139
Lead in ore	" "	7,083	6,018	40,050	45,690
Nails, cut	" "	661		1,127	
" wire	" "	3,713		13,588	
Tin	" "	105	1,423	216	17,167
" plates	" "	4	4,602	170	25,702
Zinc	" "	43	49	540	546
" ore	" "	1,645		10,275	

*New York Metal Exchange returns. †By our Special Correspondent. ‡Not specified. §Week ending July 28th §§ Moothly returns of the Treasury Department.

The duties on metals under the present tariff law are as follows: Antimony, metal or regulus, ¾c. a lb. Lead, 1½c. a lb. on lead in ores; 2½c per lb. on pigs, bars etc; 2½c. on sheet, pipe and manufactured forms. Nickel, 6c. per lb. Quicksilver, 7c. per lb. Spelter or zinc, 1½c. per lb. in pigs and bars; 2½c. on sheets, etc. Copper, tin and platinum are free of duty

strong demand, but we have invested an enormous sum—the best authorities say about $800,000,000—in industrial and other new stocks. It is no wonder that money is less plentiful and brings a higher rate.

The silver market for the week has been firm. Less silver has been going forward, because of the strike in Colorado and the scarcity of lead ores.

The statement of the United States Treasury on Friday, August 4th, shows balances in excess of outstanding certificates as below, comparison being made with the statement for the corresponding date of last week:

	Aug. 3.	July 27	Changes.
Gold	$245,988,355	$246,338,887	D. $350,532
Silver	4,891,093	4,870,652	I. 20,441
Legal tenders	15,200,354	15,123,791	I. 76,563
Treas. notes, etc...	950,505	876,549	I. 73,956
Totals	$267,030,307	$267,209,870	D. $179,503

Treasury deposits with national banks amounted to $77,614,823, a decrease of $83,416 during the week.

The statement of the New York banks—including the 66 banks represented in the Clearing House—for the week ending July 29th, gives the following totals, comparison being made with the corresponding weeks in 1898 and 1897:

	1897.	1898.	1899.
Loans and discounts	$542,996,200	$636,766,700	$759,509,100
Deposits	623,045,000	741,680,100	862,142,700
Circulation	13,431,100	14,391,900	13,575,800
Reserve:			
Specie	91,470,400	166,505,100	56,934,400
Legal tenders	109,984,000	60,819,400	169,412,400
Total reserve	$201,481,400	$227,324,500	$226,346,800
Legal requirements	155,761,250	185,420,025	215,535,675
Balance, surplus	$45,720,150	$41,904,475	$10,811,125

As compared with the previous week this year the statement shows decreases of $8,334,500 in loans, $12,739,300 in deposits, $27,600 in circulation, $187,900 in legal tenders, $4,241,400 in specie and $1,244,475 in surplus reserve.

The following table shows the specie holdings of the leading banks of the world at the latest dates covered by their reports. The amounts are reduced to dollars, and comparison is made with the holdings at the corresponding dates last year:

	1898.		1899.	
Banks.	Gold.	Silver.	Gold.	Silver.
N. Y. Assn.	$166,506,100	.....	$169,412,400	.....
England	176,415,230	.....	165,884,715	.....
France	375,473,295	$248,327,240	382,852,735	$241,544,710
Germany	143,245,000	73,790,000	142,840,000	73,580,000
Aus.-Hun.	175,320,000	63,185,000	182,940,000	63,915,000
Spain	51,065,000	26,690,000	64,800,000	68,100,000
Netherl'ds	18,505,000	34,640,000	13,720,000	30,545,000
Belgium	14,745,000	7,370,000	15,120,000	7,560,000
Italy	73,915,000	9,495,000	76,340,000	9,395,000
Russia	551,645,000	21,600,000	471,535,000	27,040,000

The returns of the Associated Banks of New York are of date of July 29th, and the others are of date July 28th, as reported by the "Commercial and Financial Chronicle" cable. The New York banks do not report silver separately, but the specie carried is chiefly gold coin. The Bank of England reports gold coin only.

Shipments of silver from London to the East for the year up to July 20th, 1899, are reported by Messrs. Pixley & Abell's circular as follows:

	1898.	1899.	Changes.
India	£3,057,340	£2,789,100	D. £268,240
China	371,334	823,853	I. 452,519
The Straits	155,562	51,046	D. 104,516
Totals	£3,584,236	£3,663,999	I. £79,763

Receipts for the week this year were £205,000 from New York, £15,000 from the West Indies and 4,000 from Suez; a total of £244,000, all bar silver. Shipments were £113,000 to Bombay and £83,000 to Shanghai, bar silver, and £10,000 in Mexican dollars to Penang; a total of £206,000.

Indian exchange has been a little weaker, owing to the shipment of considerable amounts of silver to India. The Council bills offered in London were all taken, however, but at a fraction below the price of the past few weeks; the average rate being 15.97d. per rupee.

The coinage of the mints of the United States in July, the first month of the fiscal year, is reported by the Bureau of the Mint as follows:

Denomination.	Prices.	Value.
Double eagles	94,000	$1,880,000
Eagles	410,150	4,101,500
Total gold	504,150	$5,981,500
Dollars	406,000	$406,000
Half dollars	406,000	208,000
Quarter dollars	468,000	117,000
Dimes	680,000	68,000
Total silver	1,960,000	$794,000
Five-cent nickels	1,680,000	$84,000
One-cent bronze	538,000	5,380
Total minor	2,218,000	$89,380
Total coinage	4,682,150	$6,864,880

The coinage for the month was very light, largely on account of the small amount of work done at the Philadelphia Mint.

Other Metals.

Daily Prices of Metals in New York.

August.	Sterling Exchange.	Silver. Fine oz. Cts.	Silver. London. P'nce	Copper. Lake cts. ℔ lb.	Copper. Elec-tro-lytic. ℔ lb.	Copper. Lond'n stand-ard £ ℔ ton.	Tin, cts. ℔ lb.	Lead cts. ℔ lb	Spe-l ter, cts. ℔ lb.
29	4.86¾	60¼	27⅛	18⅛	17.25	.....	33	4.55	5.80
31	4.86¾	60⅜	27¾	18⅛	17.25	76 5 0	33	4.55	5.80
1	4 86⅝	60⅜	27¾	18⅛	17.30	76 2 6	32⅝	4.55	5.80
2	4.86¼	60¼	27¾	18⅛	17.30	75 12 6	32¼	4.57½	5.80
3	4.86¼	60¼	27¾	18⅛	17.35	75 17 6	32¼	4.57½	5.80
4	4.86¼	60¼	27¾	18⅛	17.35	75 17 6	30½	4.57½	5.80

The quotations given for electrolytic copper are for cakes, ingots and wirebars; the price of electrolytic cathodes is usually 0.25c. lower than these figures.

Copper.—The market continues very firm and consumption in this country proceeds at a marvelous rate. It appears to be on the increase. It is noteworthy that buyers are covering their future wants to quite some extent and we hear of various transactions for delivery five and six months hence. This is indicative of the confidence trade has in the maintenance for some time to come of present values. For early deliveries copper is growing scarcer every day; some descriptions in fact, we understand to be quite unobtainable for near-by shipments. Lake copper is still offered at 18½c. We understand that some of the companies have already sold all they expect to produce during the balance of the year. In electrolytic copper a good business has been done at 17.25@17.35c. for cakes, wirebars and ingots, and 17@17.10c. for cathodes.

There has been little business done for shipment to Europe, as the buyers there are still unwilling to pay the prices which can be realized here. Our cables report a good consumption, and it is believed that stocks of fine copper in the hands of manufacturers are very light. The market for speculative sorts has again suffered in consequence of the political news, as well as the firmness of money rates. However, there is an improvement toward the close, and while at the beginning of the week the market touched £75 12s. 6d. for spot and £76 2s. 6d. for futures, on Thursday it improved at £76 for spot and £76 10s. for futures and closed at £75 17s. 6d. for spot and £76 5s. for three months. Copper statistics for the second half of July show an increase of 4,500 tons.

Refined and manufactured sorts we quote: English tough, £79 15s.@£80 10s.; best selected, £80 5s.@£80 15s.; strong sheets, £87 10s.@£88; India sheets, £86@£86 10s.; yellow metal, 7d.

Tin.—This week has witnessed quite a reaction and the market, which closed last week at £143 17s. 6d., after opening this week at £146, declined quickly to £144 15s., and on Thursday reached £139 15s. for spot and £140 15s. for three months. To-day tin is much lower, with heavy dealings, the spot price being £137 17s. 6d., and three months £139.

Transactions on the London Stock Exchange have been of large volume and our cables from abroad indicate that further fluctuations are to be looked for in the near future. The New York market has been relieved somewhat by arrivals the beginning of the week, but it is feared that spot tin will very shortly again command a premium. Stocks in the hands of consumers throughout the country appear to be exceedingly small and inquiry from all directions is large. We quote the market here at close about 30½c.

Stocks of tin reported on August 1st are as follows in long tons:

	In store.	Afloat.	Totals.
London	5,299	2,541	7,840
Holland	4,421	832	5,253
U. S., exc. Pacific ports	2,278	3,630	5,908
Totals	11,998	7,003	19,001

This shows an increase of 233 tons over July 1st; but a decrease of 5,971 tons from August 1st, 1898.

Lead.—We regret to still have to report that there appears to have been little progress made toward a settlement of the strike in Colorado. The demand for lead at this season of the year is, as usual, very large, and although buyers are deferring their purchases as much as possible stocks are nevertheless diminishing rapidly. Prices have advanced somewhat and the metal is now quoted at 4.55@4.60c. New York. For some time past values in the West continued to rule comparatively higher, and we quote 4.55c. St. Louis and 4.60c. Chicago.

The foreign market is firmer and a good business has been done for export. Spanish lead is quoted at £14 10s.@£14 11s. 3d.; English, 5s. higher.

St. Louis Lead Market.—The John Wahl Commission Company telegraphs us as follows: Lead is firm, but dull, selling at 4.55c. for common metal and 4.57½c. for chemical and corroding lead. Trading is only of a retail character.

Spelter.—There has been a better demand for spelter this week. It appears that consumers in general are not well supplied, and there are signs, as the fall season approaches, that the demand for galvanizing purposes will increase. We quote 5.80c. New York.

The market abroad is cabled as £25 5s. for good ordinaries and £25 10s. for specials.

Antimony.—There is no change. We have to quote Cookson's at 10½c.; Hallett's and U. S. Star at 10c.

Nickel continues on unchanged lines, and no alteration in prices can be reported. We quote for ton lots, 33@36c. per lb., and for smaller orders 35½@38c. London prices are 14@16d. per lb., according to size of order.

Platinum.—Demand is active and prices continue high. For large lots $15.50 per ounce is now quoted in New York, for smaller orders, $16@$17. The London quotation is 62@64s. an ounce.

Quicksilver.—The New York quotation remains unchanged at $45 per flask. The London price is also unchanged at £8 7s. 6d., with the same quotation given from second hands.

The Minor Metals.—Quotations are given below for New York delivery:

Aluminum.	Per lb.		Per lb.
No. 1, 99% ingots	35@37c.	Bismuth	$1.45@$1.50
No. 2, 90% ingots	31@34c.	Magnesium	$2.75@$3
Rolled sheets	38c. up	Phosphorus	40@50c.
Alum.-bronze	20@23c.	Tungsten	70c.
Nickel-alum	33@39c.	Ferro tungsten, 60%	60c.

Variations in price depend chiefly on the size of the order.

LATE NEWS.

Labor troubles in the Pennsylvania anthracite field are increasing. Besides the Babylon Colliery the employees of 4 other collieries have gone on strike. The main grievance is alleged excessive dockage. It is estimated that nearly 2,500 men are idle. At the Nanticoke Colliery of the Susquehanna Coal Company, 1,000 have stopped work, and at the Keystone and Mill Creek 500 are out. The latter have several grievances. At the Exeter shaft, at West Pittston, 500 men are out on a demand for increased wages. Several other collieries are threatened with shutting down as a result of dissatisfaction among their employees.

(From Our Special Correspondent.)

The demand for coke in the Connellsville Region has started the local brick works to going at full and double turn, and interesting information is connected with the orders which the Joseph Soisson Fire Brick Company of Connellsville, Pa., booked for early delivery. This company this week granted a voluntary increase of 10% in the men's wages at the Volcano, Moyer and Davidson fire-brick plants, the advance to take effect August 1st. At the same time it was announced that hereafter the men are to be paid every two weeks instead of every month. The company has ordered brick making and drying machinery, which will increase the capacity of the plants 20,000 bricks a day, making the capacity at the three plants 50,000 bricks a day. The company is now turning out bricks at double turn. Among the large orders are the following: Bricks for 32 new ovens to be erected by Taylor & Fulton at Mount Hope, on the Butte Run branch, Dunbar Township; 230 ovens for the American Coke Company at the Baggaley works in Westmoreland County, the erection of which will increase the number of ovens there to 630, making the plant one of the largest in the Connellsville coke region; 32 new ovens for the Acme Coke Company, a new company chartered recently, at the head of which are James McCray and others, of Uniontown, who will build the plant near Smithfield. In addition to this the company will furnish bricks for 60 new coke ovens of the by-product type for the Southwest Virginia Improvement Company at Pocahontas, Va. This company recently acquired a tract of coal land and intends to erect 115 ovens, and finally 1,000 ovens, if the first are successful. Owen Murphy, the Greensburg contractor, has gone South to build the ovens this week. The superintendent of this plant will be William Lange, formerly of Dunbar, Pa. The McDonald Pottery Company will build 75 new coke ovens in Fayette County, West Virginia, and these will be furnished by the Soisson Fire-Brick Company, also bricks for 25 new ovens for the H. C. Frick Coke Company at Calumet, 25 at Mutual and a like number for Adelaide, as well as 60 for the Empire Coke Company at Ruffsdale.

By Telegraph.

(From Our Special Correspondent.)

Salt Lake City, Utah, August 4th.—Utah's mining event of the summer is the transfer of 22,000 shares of Centennial-Eureka stock to the United States Oil people of Boston at $70. The initial payment, $154,000, is just made, and the remaining $1,386,000, is to be paid by January 1st. J. E. Bamberger negotiated the deal. A. F. Holden, representing the Boston people, states that the property is not to be a part of the United States Mining Company, though owned by the same parties; and that the ores will be treated at the United States Smelter, soon to be built in Utah. There were two joint examinations and reports made, one by James W. Neill and George W. Smith, and the other by Richard A. Parker and A. F. Holden.

MINING STOCKS.

Complete quotations will be found on pages 176, 177 and 178 of mining stocks listed and dealt in at:

Baltimore,	Philadelphia,	Paris.
Boston.	St. Louis,	Rossland,
Colo. Springs.	Salt Lake.	Shanghai,
Denver.	San Francisco.	Toronto.
New York.	London.	Valparaiso.
	Mexico.	

New York. Aug. 4.

The mining stock market still shows the effect of the vacation season and continues dull even for August. Sales have been few and fluctuations moderate. The only excitement of the week has been a jump in Amalgamated Copper, which was run up several points purely on inside dealings. The fact is that most people are a little afraid of this stock, as it is so easily handled by the insiders and very few do much in it except the small speculators who look for quick returns and moderate profits. The stock closes at $98. The only other copper stock which made much show this week was Tennessee Copper, which changed hands at $19@$20.

American Smelting & Refining has been quiet, but a little stronger toward the close. The common stock sold from $39 up to $40.50, and the preferred from $85 to $86.

The Comstocks are almost dead and the dealing in them is of a perfunctory kind altogether. Prices were a little better nominally this week, Consolidated California selling at $2.10.

The only California stocks dealt in this week were Standard Consolidated, which sold at $2.45, and Brunswick, of which quite a number of shares changed hands at 15c. Some Quicksilver common was sold at $2.00 and a few shares of preferred at $8.50.

In the Utah stocks Horn Silver brought $1.25 and Ontario $6.75. There is some inquiry for Daly and Daly-West, but there appears to be none of either stock for sale.

Homestake of South Dakota changed hands at $65.

The Cripple Creek stocks did not command much attention this week, although the small speculators on the Industrial Exchange dabbled a little with the low-priced shares. The sales of the better class of stocks were chiefly confined to Portland, which brought $1.85.

There is talk of the introduction of a number of new stocks on the Exchange this fall, with promise of a revival of interest. It is only talk so far, and we shall see later what the plans amount to.

The Standard Oil Company of New Jersey has declared a dividend of 5%, payable September 18th, to stockholders of record on August 16th.

Boston. Aug. 3.

(From Our Special Correspondent.)

The market has been rather a narrow one this week, with nothing of the boom element about it. Still it has been fairly strong, with prices in general well maintained. In one or two stocks, notably Calumet & Hecla, there was a rise. It was, however, chiefly an inside movement, and the public is doing very little in the way of speculation.

Calumet & Hecla was a marked feature of the market, rising $20, to $845. Other prices were steady, without material change in either direction. Arcadian opened up $½, at $71, reacted to $70¼, and then rallied to $71 again. Quincy sold at $162, Montana at $355, Franklin at $20 and $19½, Old Dominion at $87¾, Butte & Boston at $79, Gold Dredging at $33, Isle Royale at $46½, Wolverine at $47⅝, Parrot at $53¾, Utah at $44 and United States at $23.

The jump in Amalgamated Copper this week was entirely an inside movement. It shows what the insiders in this stock can do when they want to stir things up; and it is a very distinct warning to outsiders to let it alone. A stock which can be moved either way at the will of two or three big operators is a very risky one for small dealers.

There is talk of a dividend on Amalgamated stock, but nothing very definite. What can be paid depends mainly on the amount of the dividend which Anaconda will pay, and that is unknown as yet. Meantime all reports and rumors should be received with caution.

Dominion Coal has been quite active and strong. The July production of coal from the mines is reported at 183,400 tons, an increase of 7,533 tons over July of last year. There has also been a good deal of interest in New England Gas and Coke securities. A good many people, I find, have confidence in the future of this company as a pioneer in an important business movement.

Cochiti is to issue 25,000 additional shares to provide working capital and new machinery. A persuasive sort of circular is issued to stockholders, but its assertions are too general and vague to be very convincing. However, the new stock is pretty sure to be taken up by those who are already in it.

The following new corporations have filed papers at Portland, Me.:

Harmaday Zinc Company; capital, $50,000; president, Geo. F. Gould, of Portland, Me.; treasurer, John T. Fagan, of Portland, Me.; directors, the above and Henry M. Chase, of Boston, and B. M. Welch, of Portland.

Consolidated Lead and Zinc Company; capital, $1,000,000; president, Augustus B. Wilgus, Jr., of Joplin, Mo.; treasurer, Norman C. Raff, of New York City; directors, the above and George F. Kissam, of New York City; Frank R. Gammon and Samuel L. Powers, of Newton, Mass., and Matt. B. Jones, of Newton Centre, Mass.

The Boston papers—especially the stock news sheets—continue to publish "news" from the Val Verde and other enterprises of that class. They have no news, however, from Gov. Murphy and the Arizona papers which are fighting the doubtful concerns. I have had some very pleasant things said to me about the course which the "Engineering and Mining Journal" has taken in exposing the fake concerns. It is appreciated here; and several have told me that they regret very much that they did not heed your warnings. Now they appreciate their value.

Salt Lake City, July 26.

(From Our Special Correspondent.)

A little spurt has appeared on the horizon of Utah mining share trading; whether it is to be transitory or lasting, opinions differ. Be that as it may, it is a hopeful omen in this sultry period, where so many are away and the market is sort of left to drift.

Ajax's improvement is due to the assurance that an assessment will probably not be levied. Anchor is recovering from the effects of the Daly-West trespass suit. Bullion Beck is strong and unchanged. Centennial Eureka did business at $51. Chloride Point moves down and up around 75c. The consignments of mill products indicate larger earnings. Daisy supplied a surprise, climbing to 37c., with strong inside support. Daly West sold up to $12.40, then sagged several points. Eagle & Blue Bell's strength reflects conditions at the mines. Four Aces caught on to the better market tone, moving up several points. The softening of Geyser-Marion is attributable to the non-announcement of a July dividend.

Grand Central is in high favor. It did business at $9.50, and there is a steady call for the shares. Joe Bowers was less active. Lower Mammoth presents a better front. Mammoth softened after the books were closed for the $40,000 dividend, payable August 1st. Mercur is seemingly stronger. There are fresh intimations of Northern Light paying a dividend, which acts favorably on the shares. Ontario is moving up. Sacramento pays the usual dividend on Tuesday. Sunshine is steadily inquired for. Swansea has announced the regular dividend on August 10th. Shares are higher and very firm. South Swansea steadily gains. Star Consolidated is a puzzle. Report is that the transfer of 400,000 shares is to be a go, and that a $40,000 payment is about to be made, but the stock does not indicate it.

San Francisco. July 29.

(From Our Special Correspondent.)

We have had the usual sort of a market this week, with fluctuations on small inside trading. Prices have been rather firmer this week, but sales have been small.

The reports from the Comstock are uninteresting, and there is nothing new from the pumping plant. The public continues to show a conspicuous lack of interest in the market.

Consolidated California & Virginia has sold at $2.10; Ophir, $1.10; Sierra Nevada, 61c.; Mexican, 58c.; Best & Belcher, 56c.; Potosi, 52c.; Hale & Norcross, 33c.; Challar, 23c.

The annual meeting of the Highland Mining Company has been called for August 11th.

The executive committee of the California Miners' Association has decided to assist John Spaulding, the owner of the Red Dog hydraulic gravel mine near You Bet, in his defense of a suit brought by Robert T. Devlin, attorney of the Anti-Debris Association, in the name of Sutter County, to restrain the defendant from operating the mine. The suit will squarely present the issue as to the constitutionality of the Caminetti act, passed by Congress, and under which hydraulic mining is allowed. The miners contend that the State authorities cannot interfere with hydraulic mining under this law, and if they are defeated in the State courts it is their intention to carry the litigation into the Federal courts on a writ of error.

London, England. July 19.

(From Our Special Correspondent)

The never ending political deadlock in the Transvaal continues to make the South African mining market practically nonexistent. Certainly, the various reports and rumors of concessions or refusals to concede are used by the professional element to put the market up or down, but most of their actions are mere make-believes and very little actual buying or selling takes place. To an outsider the market offers very little of interest, for the negotiations, conferences and political deals on which the market movements take place are of a very paltry character, and can hardly be classed as high politics; and besides, they have nothing to do with mining in itself. In the meantime, while Boer and Outlander struggle for supremacy, the mining operations go on without interruption, as will be seen from the figures of the monthly production. In June the Rand production was 445,763 oz., and outside fields yielded 21,508, figures which are almost identical with those for the preceding three months. Rhodesians suffer neglect owing to the uncertain political future of South Africa, and also on account of the poor results of mining, though the June output shows some recovery.

The only section of the mining market where there is any activity at all is the West Australian. Here the mines in the Kalgoorlie District are all pretty active, and Lake View Consols lead the way with the £1 shares standing at £23 or £24. There appears to be a good deal of buying and holding for rises on the part of the general public in the Westralian market, when other sections are practically lifeless.

The British Columbian section keeps in the dead condition mentioned in my last letter. The fact is that abundant proofs are coming to hand that British Columbia is a land of low grade propositions. With the exception of a few Slocan properties there are no bonanzas such as one might reasonably expect, judging from the proximity of so many rich districts in the Rocky Mountain states. The Le Roi is proving of lower grade than the buyers calculated on, and many of the other less developed properties of the Whitaker Wright Group are averaging very low values. The London & British Columbia Gold-fields, which has had the advantage of Mr. Fowler's advice in buying properties, are finding that some of their mines which showed well at first are gradually coming into the class of concentrating propositions. This is turning out to be the case with the Whitewater Mine in the Slocan District, and considerable study is being brought to bear on the question of erecting suitable concentrating plants.

Paris. July 23.

(From Our Special Correspondent.)

The mining stock market continues to be rather a dull one. Attention has been directed elsewhere, and especially to the prisoner at Rennes. How long this will last, no one can tell.

A sensation has been the sharp fall in Rentes. This has had a disturbing effect in all directions. By many it is attributed to the present regulations of the Bourse. Everything is so closely in the hands of the "agents de change" that manipulation of values is an easy matter, and there is no chance to detect or connect it. It is beyond doubt that the fall in Rentes, which reflects on the national credit, would not have taken place, or at least would have been much less, had there been an open market. The suppression of the "coulisse" has already sent much business to London and Bruxelles; and this affair is a new proof of the injudicious nature of the present regulations.

The uneasy feature of the market this week has been in the copper shares. It is true that present indications are in favor of high prices; but we hear so much of new companies and large production that many fear a break and consequent heavy losses. The stocks at present are largely left to the professional speculators.

The South African gold stocks remain weak, in spite of the large production which is reported from the Transvaal. The fears of the results of political complications seem to me to be exaggerated, but it is a very real one. The London market is dull enough, but it is reported that London operators are buying a good deal of the stock which our people seem ready to part with.

The metallurgical stocks—and notably the Russian group—have formed the strongest section of the market; but there has been no special incident during the week.

The reports of the great railroad companies, issued this week, show very favorable results for the past half year. Traffic has generally been very good.

The eighth part of the new "Dictionnaire du Commerce," published by Guillaumin & Cie., under the direction of MM. Yves Guyot and Arthur Raffalovich, completes the first of the two volumes of which it is to consist. The work has been so far accomplished with remarkable rapidity, the first part having only been issued in April last year. The volume of nearly 1,300 pages comprises very little of the old edition, published by the same firm 40 years ago, and the few articles that have been retained have been brought up to date. Among the most important of the new articles in the eighth number are those under the heading of "Douanes" (Customs) 36 columns, by M. Pallain, who was for many years director-general of customs, and is now governor of the Bank of France; "Cuivre" (copper) by M. Lazare Weiller, head of the great firm of metal refiners; "Effets de Commerce" (trade bills), 35 columns, by MM. Debay, professor of the School of Law at Caen and Salefranque, inspector at the Registration Bureau; and short papers on "Débouches" (trade markets), "Droit au Travail" (right to work), by M. Yves Guyot; with other articles of value.

Azote.

STOCK QUOTATIONS.

NEW YORK.

Name of Company.	Location.	Par val.	July 28. H.	July 28. L.	July 29. H.	July 29. L.	July 31. H.	July 31. L.	Aug. 1. H.	Aug. 1. L.	Aug. 2. H.	Aug. 2. L.	Aug. 3. H.	Aug. 3. L.	Sales
Adams Con.	Colo.	$10	.08		.08		.08		.06		.06		.06		
Alamo.	"	1	09½		.08		.09		.09		09				
Alice	Mont.	5	1.20		.95		95		.96		1 60				200
Alliance	Colo.														
Anaconda, c	Mont.	25			56.13	56.00	56.25	55.75			56.00	55.13			8,280
Anaconda Gold	Colo.	5	.42		.44		.48				.48				
AnchoriaLel	"	1	.70		.70		.70				.70				
Argentum-Jun.	"	2	.23		.23		.23				.23		.28		
Belcher	Nev.	3			2				.24		.22				
Best & Belcher	"	3	.57		.50						.65		.65		800
Breece	Colo.	5	1.65		1.70		1.7				1 70				
Brunswick	Cal.	1	.15		.12		.15		.15		.15		.15		
Bullion	Nev.	1													
Catalpa	Colo.	10	.20		.20		.20				.20				
Chollar	Nev.	3	.20		.20		.20		.22		.24				
Chrysolite	Colo.	50													
Comst'k T ,b'ds	Nev.	100	.04		.04		.04				.04		.04		
do. stock	"	100	.04		.04		.04				.01		.04		
do. scrip	"	100	.04		.04		.05				.06		.04		
Con. Cal. & Va	"	2½	2.21		2.20		2.00		2.00		2.10		2.20		400
Con. Imperial		1	.02												100
Cr & Cr. Creek	Colo.	1	.07		.07		.08		.09		.09				
Crescent	"	10	.15				.15		.15		.15				
Cripple Cr. Con.	"	1	.9		.10		.10		.10		.11				800
Crown Point	Nev.	8	.22		.22		.22		.24		.26				
Deadw'd Terra	S.Dak	25	.60		.65		.70		.65		.60		.65		
Elkton	Colo.	1	.90		.90		.90		.93		.91				
Enterprise	"	1													
Eureka	Nev.	20	.50		.50		.50		.45				.45		
Father de Smet	Dak.	100	.10		.10		.10		.10		.10		.10		
Gf'rf. Con.	Colo	1	.13		.13		.13								
Gilpin & Linc'n	"	1													
Gold Coin C Ck	"	1													
Gold Coin Gilp.	"	5													
Golden Fleece	"	1	.23		.22		.25		3		.26		.24		
Gould & Curry	Nev.	3	.40		.40		.4		28		.40				
Gregory Gold	Colo.	1													
alc&Norcross	Nev.	3	.30		.33		.32		3		.30		.33		
High Five	Colo.	1													
Homestake	S. Dak	100	69.00		65.00		69 00		65.00		65. 0		65. 0		
Horn Silver	Utah.	25	1.65		1.45		1.40		1.45		1.25		1.40		
Iron Silver	Colo.	20	.50		.51		.50		5		.51		.50		
Isabella	"	1	.82½		.82½		.82		.83		.82		.80		
Jefferson	"	1	.06								.0				
Jennie Blanche	"	1	.56		55½		.56		58½		.57				
Justine	"	1	.01		.01		.01		.01		.01		01½		
King & Pemb.	Ont.	10	.25		.25		25		.20		.20				100
La Crosse	Colo.	10	.16		.18		.16		2		.16		.16		
Leadville Con.	"	10	.09		.09		.09		.09		.09		.09		
Little Chief	"	10	.19		.19		.19		.18		.18		.19		
Mexican	Nev.	8	.50		.52		.50		.50		.70		.57		200
Mollie Gibson	Colo.	5	.24		.24		.25		.24		.24		.25		
Morenci Cop.pf	Ariz.		1 58		1.58		1.55		57½		1.55				
Moulton	Mont.	25	.30				.30		.30				.30		
Mt. Rosa	Colo.	1	.23		.23		.23		.26		.23				
Occidental	Nev.	8	.20		.20		.20		.20		.18				
Ontario	Utah.	10	7.50		6.00		7 50		7.5.		6.75		6 75		400
Ophir	Nev.	8	1 00		1.05		1 05		1 10		1.05		1.10		
Pharmacist	Colo.	1			.04		.04		.04		.04				
Phoenix	Ariz.	1	12	.10	.13		.11				11				15,500
Plymouth Con.	Cal.	10	.10		10		10		.10		.10		.10		
Portland	Colo.	1	1.95		1.90		1.85		1.85		1 95		1.85		
Potosi	Nev.	8	.45		.48		.44		.45		.45		.45		
Quicksilver	Cal.	100	2.10		2.15		2 10		2.0		2.00		2.00		
do. pref.	"	100	8 00		8.10		8 50		8.50		8 50		8.00		
Rocky Mtn.	Colo.	1					0								
Savage	Nev.	20	.20		.20		.20		.20		.20		.65		400
Sierra Nevada		8	.55		.67	.65	.57		.5.				.65		
Small Hopes	Colo.	20	1 25		1.30		1.25		1.25		1.25		1.25		
Specimen	"	1	.06		.06		.08		.07		.6				
Standard Con.	Cal.	10	2.50		2.80		2.85		2.5.		2.45		2.55		800
Syndicate	"	1	.08												200
Union	Colo.	1	.29		.29		.28		.33		.31				
Union Con.	Nev.	2½	.33		.35		.33		.32		.33		.33		
Utah Con.	"	5	.13		.10		.13		16		.14				500
Work	Colo.	1	.23¼	.23	.25		.25½		.26		.26	.24			1,000
Yellow Jacket	Nev.	8	.33		.33		.33		.30		.33		.33		

COAL AND INDUSTRIAL STOCKS.

Am. Sm. & Ref.		$100	38⅝	38	39	38⅝	40	38¾	41⅝	40	40⅝	39	39½		11,735
" " pf		100	85½	85	86		87	85¾	86½	85½	86	85			3,950
Am.S &W Co n		100	57½	56¾	58¾	57¾	59¾	58	60¾	58⅜	61¾	59½	59		81,16
" " pf'r n		100	96¾	96½	97		97¼	97	98	97	98	97¾	97½		6,236
Central of N. J.	N. J.	100	117¾	116¾	117¾	117	118¼	117¼	118¾	117⅜			117¾		10,085
Col. Fuel & I.	Colo.	100	47¾		46¾	46	47¾	46½	47⅜	46¼	48½	47⅜	48¾		18,241
Col. & H.C.&I.	Ohio.	100	14¾	14¼	15		15¼	15	15¾	15⅜	15½	15			1,825
Del. & Hud.	N. Y.	100	123½	123	123¾		124½	124	125	123¾	124¾	123¾	123¾		12,935
Federal Steel		100	58¾	58	58¾	58¾	60¾	58¾	60¾	59⅛	60¾	59¾	59		29,054
" " pf		100	80¾		80¼		82½	79⅝	82⅝	81¾	82⅝	82	81¾		9,995
National Lead	N. Y.	100	30				31		31½	30⅝	31½	31	31		1,470
" " pf	Md.	100	112¾				113½								170
National Salt		100	45	40	43⅝		42½		41	38	42	40			
" pf		100	74	72	74	71	73	70	74	71	74	71			
New Central C.			39	37	39	37	39	37	39	37	39	37			29,000
N. Y., Ont. & W.	N. Y.	100	26⅜	26	26¼	26½	27	26⅜	26⅞	26⅝	26⅝	26¾	26½		13,871
Phila. & Read.	Pa.	100	21	2 3¼	21⅝	21	22	21¼	22	21⅝	22	21⅜	21¼		4,480
" " 1st pf.	"	100	61	59⅞	61	61¼	61⅜	60¾	62¼	61¾	61¾	61¼	6 %		47,420
Standard Oil		100	465	463	464	462½	465	462	460	455	462	458			
Tenn.C.,L&R.R.	Ala.	100	70⅜	69¾	70¾	70	72	70	74	71⅝	73¼	73⅜	73¾		39,554
" " pf	"	100													

PHILADELPHIA PA.

Name of Company	Location.	Par Val.	July 27. H.	July 27. L.	July 28. H.	July 28. L.	July 29 H.	July 29 L.	July 31. H.	July 31. L.	Aug. 1 H.	Aug. 1 L.	Aug. 2. H.	Aug. 2. L.	Sales
Bethlehem I.	Pa.	$50			63.25						63.00		63 00		375
Cambria Iron	"	50	45.25						45.38	45.13	45 38	45.13	45.38		392
Cambria Steel	"	50	23 00	22.88			23 00		23.50	23.00	22 50		22.63	22.38	1,697
Choctaw. pref.	I. T.	50	48.00		47.25								47.75		41
Choc. Tr. ctf.	"	50													
Lehigh Val.	Pa.	50	26 50	26 38	27 13	27.00	27.00		27.50	27.00	27.63	27.25	27.50	27.00	4,004
Penns. R. R.	"	50	68.63	68.00	68.25	68 13	68.63	68.38	68.50	68.38	68.63	68 13	68 63	68 13	3,929
Penna. Steel.	"	100	89 00		89.00	88.00	89.50		90.00		90.00				1,122
" "pr'f	"	100							89.50		88.00				254
United Gas I.	"	50	170	169	169	168¾	170	169	170¾	170	170¾	170	170	169¾	8,864
Welsb. of Can	Can.	100			2.25	2.18			2 25		2.33		2.50		740
Welsb. Coml.	"	100											10.00		200
" pf.	"	100													
Welsb. Light.	"	100	46.00	45.00	45.50	45.00			47.00	45.00	49 00	47.50	48 00	47.75	2,687

Total shares sold, 19,005.

VALPARAISO, CHILE.* June 18.

Name of Company.	Location.	Capital paid.	Sh. Val. paid up.	Last Div'nd. Amt.	Last Div'nd. Date.	Prices. Bid.	Prices. Asked.	Prices. Last sa e
Arturo Prat, silver	Chile.	$3,300,000	$100	4 p.c.	1897	21½	22	22
Caracoles, silver	"	315,000	100	10	1894			
Huantajaya (mine) silver	"	1,000,000	100	13	1894			
Huanchaca, silver	Bolivia.	8,000,000	25	4	1895	37	38	38½
Oruro, silver	Chile.	800,000	200			280	280	280
Todos Santos, silver	"	2,000,000	100		1896	5	6	6
Agua Santa nitrate	"	3,000,000	50	5	1898	145	145	145
Antofagasta, nitrate	"	2,000,000	200	2	1898	125	128	125
Soc. Internacional, nitrate	"	960,000	60			1	5	
Union, nitrate	"	3,000,000	200			32	37	35

* Special report of Jackson Bros. Values are in Chilean pesos or dollars.

BOSTON MASS.†

Name of Company.	Par val.	No. of shares.	July 27. H.	July 27. L.	July 28. H.	July 28. L.	July 29. H.	July 29. L.	July 31. H.	July 31. L.	Aug. 1. H.	Aug. 1. L.	Aug. 2. H.	Aug. 2. L.	Sales
Aetna, cons. g.	$5	100,000									4.50			4.75	4.00	215
Adven'u'e,Cons	25	100,000	9.5		10 00	9.50	10.00				9.75		10.00	9.88	9.50	873
Allouez, c.	25	90,000	7 88		8.50	8.25									70
Am. Z., L. & S.	25	60,000	48 00		48.00						47.88				215
Anaconda	25	1,200,000												55.63	170
Arcadian, c.	25	100,000	69.00	67.50	70.00	69.00	70.50	69 63	71.50	70.00	71.00	70.00	70.50	70.00	5,668
Arnold, c.	25	60,000	15.25	15.00	15 00	14.50			14.50	14.00					470
Ashbed, c.	25	40,000	2.00						2.00						100
Atlantic, c.	25	40,000									30.00	29.88	30 00		150
Baltic, c.	25	100,000			33 00		33.50		33.25	33.00	33.63	33.25	31.75	31.50	955
Bingham, c.&g.	10	190,000	13 50	13 13	13.50	13.38	13 88		13.50	13.00	13 63	13.25	13.63	13.50	2,893
Bonanza, g.	10	300,000	2 00	1.00	2.00	1.88	1 88		2.00	1.88	1.88		2.00	1.88	7,135
Boston Mg.													7.00		50
Boston & C. C.											.25	.20			200
Bos.&Mon,Tr B	25	200,000	*364	353					354		355	354	3.53	360	358	255
British C., Ltd.			10.50	9.50											150
Butte & Bost., c	10	200,000									79.00		78.75			300
Cal. & Hecla, c.	25	20,000	820		820								8.45	8.25	840	76
Catalpa, s.	10	100,000											.35	.30		200
Centennial, c.	25	900,000	34.75	34 25					34.00	33 50	33.50	33.00	33.63	33 50		405
Cochiti, g.	10	90,000	14 75	14 13	14.50	14.25					14.25	14 00	14.00	13.63	14.00	13.00	2,903
Copper Range.	10	150,000			44 00						45.00	44.50			44 00		525
Crescent, s.	10	300,000											21				200
Dominion Coal.	100	300,000	51 25	51 00	51 50				51.25		51.50	51.00	52 25	51.75	52.00		2,111
do. pref.	100	150,000							116¾				117				55
Federal Steel.	100	30,000			58 63	58.50	59.00	58.50	60.50	58.75	60.63	59.75	60.13	59.00	8,547
do. pref.	100	464,843	80.25		80.25						82.13	80 13	82.00	81.00	82.00		1,222
Franklin, c.	25	527,676	19 75	19.50	19.25						19 75	19 00	20.00	19 50	20.00		1,894
Gold Coin, s.	5	200,000															
Guanajusto	5	114,000															
" pf.	5	81,161															
Humboldt, c.	25	30,000							2.00								10
I. Royal Con. c.	25	100,000	47.50	46 50	47 50	41.00					47 00	46.50	46.75	46.50			1,396
Mass. con	25	100,000							13.0								50
Merced, g	15	100,000															
Michigan	25	100,000	14.00		14.00												
Mohawk, c.	25	100,000			26.75	26.25					26.75	26 25	26.50		26.75	26.25	1,200
Napa	5	100,000															
New Idria																	
N.A.Gold Dre'g		100,000											33.00		33 25		325
Old Colony, c	25	100,000	10.00						9.50	9.00			9 25	9.00	9.00		381
Old Dominion,c	25	150,000	38 50	38 00	38.50						37.50				38.50	38.00	375
Osceola, c.	25	93,000									90 00	89.25	90.00	89.0	89.50		634
Parrot, s c.	10	230,000	58.00		53 25	52 75	53.00	52 75	53.00	52.50	52.75		53 00	52.13	876
Pioneer, g.	10	100,000	2.0						2 00		2. 3	2.00					775
Quincy, c.	25	100,000									163		162		161	160	133
Rhode Island	25	100,000	8.00	7.75	8.00										8.00		300
Santa Fe, g. & c	10	250,000	13.50	13.00	13.25								13.25	13.13	13 25		798
San. Ysabel, g.	5	130,000											12.50		13.75	12.75	534
Tamarack, c.	25	60,000	222	221	223										222		41
Tecumseh, c.	25	40,000	6.0		6 13		6.25	6.00	6 25	6.0		6. 0					527
TrimountainMg		100,000	10 5		11 50	10.50	11.50	11 25	11 50	10.75	11.50	11.25	11.00				2,710
U C L & Mg. Co	25	80,000									7.5						50
United States	25	250,000	22 50								23 00	22.63	23. 3	23.0	24.00	23.00	4,805
Utah Cons,g &c	5	300,000	44 00	43 75	44.00		44.00				44.00	43 50	44.25	43.7	44 50	44.00	2,350
Victor, g.	5	200,000	3.25								3 50				3.50		110
Victoria	25	100,000			5.00						5.00	5 00	5 00		5.00		855
Washington	25	40,000	2.25	2.50	1.75		2.00				2.25	2.00					630
White Knob	100	50,000											10.00				100
Winona, c.	25	100,000	13 00				13.00	12 75	13.00						12.50	12.00	667
Wolverine, c.	25	60,000			47 50	47 00			47.5	47.00	47.50	47.00	47.75	47.5			6 9
Wyandotte.	25	100,000									5.50						200

†Official quotations Boston Stock Exchange. Total sales, 8 175. * Ex-dividend.

COLORADO SPRINGS, COLO.‡

Name of Company.	Par val	July 24. B.	July 24. A.	July 25. B.	July 25. A.	July 26. B.	July 26. A.	July 27. B.	July 27. A.	July 28. B.	July 28. A.	July 29. B	July 29. A.	Sales.
Alamo	$1	.09¼	.09½	.09¾		09½	.09¾	.09¾	.10	.09¾	.10	.10¾	.10¾	14,000
Anaconda	1	.47	48	.47	.47¾			.46	.47	.47	.51	.48	.51	1,600
Arg'ntumJ	1	.26¼	.28	.26½				.25	.27	.25	.27	.25	.27	530
Cadillac	1	.03½	.03¾	.03¾		03¾								18,000
C. C. Con	1	.10	.10¾	.10		.04¾		.10½	.10¾	.10½	.10¾	.10½	.10¾	3,500
Dante	1			.12¾		.12¼								21,500
ElktonCon	1	.92¾	.93	.92		.91½	.92	91	.92	.91	.91¾	.92	.91¾	8,500
El Paso G.	1	.33½	.36	.36		.35¾	.36	.36¼	.36½	.37	.37¾	.38		15,000
Favorite	1	.04¾	.04¼			.04¾	.04¼							12,000
Findley	1	.17¾	.17¾	.17¾	.17¾	.17¼	.18¼	.19	.18½	.18¾	.17¾	.17¾		46,500
Golden Fl	1			.23		.23	.23	.24	.30					300
Gold Hill	1			.02¾										4,000
Ing. Con	1	.08¼	.08¾			.08¼								2,500
Isabella	1	.82¾	.83¾	.81¼	.82	.81	.82½	.84¾	.85	.83½	.88¾			31,350
Jack Pot	1	.39¾	.39¾	.39	.39¼	.39¼	.40	.41¾	.41¾	.43	.43¾			47,500
Lexington	1	.11¾	.12	.11¾		.11¾	.12							26,000
Magnet R	1	.01¾	.01¾			.04¾	.01¾	.01¾						18,000
Matoa	1	.30	.31¾	.31		.31	.32	.30¼	.32	.32¾	.33			4,000
Midway	1	.06¾	.06¾	.6¼		.05	.06¼							12,000
Mobile	1	.05¾	.06	.05¼	.05¾	.05¼	.05¾							18,500
Mollie Gib.	1	.25	.2¾	.25				.25	.30	.25	.30	.25	.30	1,000
Montreal	1	.07¾	.07¾											4,000
Moon-A'c'r	1	1.10¾	1.13	1.10¾				1.10	1.13	1.10	1.12¾	1.10	1.12¾	1,250
Mt. Rosa	1							.24½	.27	.25	.27¾	.25	.27¾	
New Haven	1	.02¾	.03	.02¾		.03								29,000
Oriole	1	.05¾	.06	.05¾		.06	.06¾							11,000
Pilgrim C.	1													
Pinnacle	1		.20	.20¾		.20¾	.20¾	.20¾	.20¾	.21¼	.22	.21¾	.21¾	38,500
Portland	1	1 91½	1.96	1.96		1.95	1.95½	1.95½	1.96	1.95	1.96	1.95	1.98	8,400
Prince Alb.	1	.03¾	.04	.03¾	.04	.03¾	.04							7,000
Princess	1	.05	.05¾			.05¾	.05¾							3,000
Pythias	1	.04	.04¾	.03¾	.04	.04¼								6,000
Specimen	1	.10	.10¾	.09¾	.10	.10	.10¾							17,000
Tornado	1													
Trachyte	1	.06¾	.07	.06¾		.06¼	.06¾							19,000
Union	1	.29	.29¼	.29¾	.30¾	.30¾	.32¾	.31¾	.32¾	.32¼	.32¾	.33	.33	94,000
Uncle Sam	1	.05	.05¼											
Vindicator	1	1.00						.98	1.00	.98	1.00	.98	1.04	
Work	1	.23¾	.24½	.23¾	.24½	.24½	.25	.25¾	.26	.26¾	.26½	.26¾	.26¾	43,500

‡ Colorado Springs Mining Stock Exchange. Sales for week ending July 26th, 558,150; quotations from July 27th to July 29th by telegraph.

SPOKANE, WASH.* Week July 28.

Name of Company.	Par val.	Prices. H.	Prices. L.	Sales.	Name of Company.	Par val.	Prices. H.	Prices. L.	Sales.
Admiral Dewey	$1				Miller Creek				
Anaconda	1				Morning Glory	$.10	.12	.10¼	8,500
Athabasca	1				Morrison				
Ben Bur	1	.15	.13½		Mountain Lion	0.10			
Black Tail	1	.18	14	1,500	Noble Five	1			
Buffalo Hump					North San Poil				
Buffalo L. Tender					Novelty	1			
Cariboo (C'mp McK)	1				Old Ironsides	1			
Cariboo No. 2					Palo Alto	1			
Cuespa Blue Jay		01¾	.01		Pearl	1			
Conjecture		.07	.05	5,000	Princess Maud	0.10	.05¼	.03½	53,000
Crystal Butte		.10½	.08¾		Quilp	1	.13¾	.09¾	2, 00
Crystal Ft. Spokane					Rambler Cariboo	0.25	.30	.24	
Dardanelles	1				Rebate	0.10			
Deer Trail No. 2	1	.25	.22½	11,000	Republic (Con)	1	1.20	1.15	3,700
Evening Star	1				Res. M. & M				
Gold Ledge					San Poil	1			
Golden Harvest	1				Slocan Star	1			
Good Luck Con					Sullivan		.19½	.17	
Hit or Miss	$ 05				Summit	0.10			
Insurgent	0 10	.06¾	.05	41,500	Surprise	1			
Jim Blaine	1	.23	.17	7,000	Syndicate				
Kate Hayward		.00¾	.00¾		Tom Thumb	1	.18¾	.16¼	15,000
Knob Hill					War Cloud				
Lone Pine	1	.24	.20	13,750	Waterloo	1	.09	.09¾	4,000
Mabel					Wiarton				
Mark Tapley	0.05				Wonderful				

*Official quotations Spokane Stock Exchange. Total Sales, 88,350 shares.

STOCK QUOTATIONS.

DENVER, COLO.‡

NAME OF COMPANY.	Par val.	July 24 B.	July 24 A.	July 25 B.	July 25 A.	July 26. B.	July 26. A.	July 27. B.	July 27. A.	July 28. B.	July 28. A.	July 29. B.	July 29. A.	Sales.
Mines:														
Anae'da G.	$5	.46	.48	.46½	.....	.....	.....	.46½	.....	.45	.47	.....	.45	.....
Arg. J.	1	.26	.....	.27½	.28	.26	.....	.26	.....	.25	.27	.....	.....	500
Bangkok	1	.01½	.....	.01½	.....	.01½	.....	.01½	.....	.....	.....	.....	.....	.....
Bankers	1	.09	.10	.09	.09¾	.....	.09½	.08¾	.....	.08¾	.....	.....	.....	.....
CrippleC.C.	1	.08	.10	.10	.....	.....	.....	.....	.....	.....	10¾	.10¾	.....	.....
Delta S.	1	.03½	.....	.03	.....	.03	.....	.03¾	.....	.03	.....	.....	.....	.....
Elkton Con	1	.90	.93	.....	.92	.90	.....	.92	.....	.91	.....	.91¾	.....	.....
El Paso	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.35	.33	.....
Fanny R.	1	.....	.....	.....	.....	.....	.....	.40	.....	.....	.....	.....	.....	.....
Findley	1	.17	.17¾	.17	.18½	.17¾	.18	.19	.....	.18½	.....	.16¾	.17¾	3,000
Garf. Con.	1	.13¾	.14¼	.....	.....	.13½	.13¾	.13¾	.13¾	.13¾	.13¾	.13¾	.13¾	1,000
Gold Coin.	1	.....	.....	.....	.....	.....	.....	.....	.....	1.99½	.....	.00	.....	.....
Indepnd'nc	1	.59½	.62	.....	.....	.60	.....	.60	.....	.....	.62	.60	.61½	.....
Iron Clad	1	.....	.06½	.....	.06¼	.07½	.....	.07¼	.07¾	.06¾	.07	.....	.....	19,000
Isabella	1	.80	82	.80	.....	82½	.84	85	86	.83½	.85	.84¼	.86½	.....
Jack Pot	1	.....	.....	.....	.....	.....	.....	.40	.....	42	.....	.....	.41½	.....
Jefferson	1	.06½	.08	.07¼	.....	.07¼	08	.07½	.....	.07½	.....	.07¾	.09	.....
Keystone	1	.12	.13	.12¼	.12½	.11¾	.....	.12½	.13	.12¾	.12¾	.12½	.12¾	8 000
LosAngeles	1	.08¾	.08¾	.08¾	.08¾	.08¾	.09	.08¾	.....	.09¾	.....	.....	.09¾	.....
Mollie Gib.	5	.....	.27	.....	.....	.....	30	.....	.27	.24	21½	.....	.....	.....
NewZealnd	1	.25	.....	.29¼	.31	.29	.32	.28¾	.....	.29	.29¾	90	.31	5,700
Ophir	1	.35	.....	.36	.40	.....	.33	.35½	.....	.35	.38	.36	.....	.....
Pharmacist	5	.04¾	.....	.04¾	.04¾	.04¾	.....	.....	.05	.04¾	.....	.04¾	.04¾	2,000
Portland	1	.....	1.95	.....	1.98	.....	1.96	.....	.96	1.93	1.97	.....	.....	.....
Specimen	1	.....	10¼	.....	.10	.09¾	.....	.10¾	.10¾	.....	.10¾	.12	.12½	.....
Union Gold	1	.29	.29½	.30	.34	.31½	.....	.31½	.....	3 ¾	.32	.34	.35½	7,000
Work	1	.....	.....	.....	.24½	.24	.....	.25¾	.26	.26	.....	.26	.....	2,000
Prosp'cts:														
C.C Imp	1	.002½	.....	.0 ¾	.....	.002	.....	.002¾	.002½	.0 2¾	.00 4¾	.0 2	.003	1,000
Gene Field	1	.002	.002¾	.002	.002½	.002	.002¼	.002	.002¾	.002	.002½	.0 2¾	.....	6,000
Illinois	1	.007½	.....	.008	.....	.008	.....	.008	.....	.008	.....	.008	.....	10,0 0
Old Gold	1	.01¾	.01¾	.01¾	.....	.01¾	.01¾	.018	.018¾	.....	.....	014	.01¾	2,000
Puritan	1	.....	004¾	.....	.005	.....	.....	.....	.....	.004½	.005	.0 4¾	.0 5¼	.....
Miscell.:														
Acacia	1	.....	.13¾	.12½	.....	.12¾	.13¾	13¾	.13¾	.13¾	13¾	.13¾	.13¾	15,000
Alamo	1	.....	.09½	.....	.09¾	.09	.09¾	.09½	.10	.09¾	.10	10	.10¾	.....
Aola	1	.....	.03	.....	.03	.....	.03	.....	.03	.....	.03	.....	.03	.....
Battle Mt.	1	31	.33	.30	.....	.31¾	.33	.....	.....	.32	.....	.32¾	.33¾	.....
C. C. & M.	1	.10¾	.11¾	.10¼	.....	.11¾	.12	.11¾	.12	.11¾	.12	.11¾	.11¾	8,000
De Beers	1	.....	.....	.....	.....	.....	.....	.011¾	.....	.011	.....	.01¾	.013	.....
Des Moines	1	.03¾	.....	.03¾	.04¾	.....	.....	.....	.04½	.03¾	.04¾	.04	.04¾	2,000
Favorite	1	.04¾	.....	.....	.....	.....	.....	.....	.....	.04¾	.07	.....	.....	.....
Goldstone	1	.01¾	.01¾	.01¼	.01¾	.01¾	.01¾	.01¾	.01¼	.01¾	.....	.....	.....	2,000
Insley	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Magnet R.	1	.....	.04¾	.04¾	.04¾	.....	.04¾	.04½	.....	.04¾	.04¾	.04½	.04¾	4,000
Mobile	1	.....	.....	.03¾	.....	.03½	.....	.03½	.....	.03¼	.....	.....	.....	.....
Trachyte	1	.....	.....	.....	.....	.....	.....	.....	.....	.07	.....	.....	.....	.....
Wh.of For.	1	.....	.007¾	.008	.007¾	.006	.007¾	.....	.....	.....	.....	.006	.007	.....

‡ Official Quotations Denver Stock Exchange. Sales: Mines, 47,500 shares; Prospects, including those mentioned, 19,000 shares; Miscellaneous, 31,000 shares; total, 97,5 0 shares.

SAN FRANCISCO, CAL.

NAME OF COMPANY.	Location.	Par. value.	July 27.	July 28.	July 29.	July 31	Aug. 1.	Aug. 2.
Alpha Con.	Nev.	1.00	.04	.03	.03	.03	.05	.03
Alta	"	2.00	.07	.08	.07	.07	.08	.08
Andes	"	3 00	.22	.22	.21	.20	.22	.22
Belcher	"	3 00	.26	.27	.26	.26	.28	.29
Best & Belcher	"	3 00	.53	.56	.56	.63	.66	.69
Bullion	"	1.00	.08	.08	.08	.08	.08	.09
Caledonia	"	3.00	.63	.68	.67	.67	.72	.73
Challenge Con.	"	3.00	.25	.31	.30	.27	.29	.28
Chollar	"	3.00	.23	.24	.24	.23	.25	.27
Confidence	"	3.00	.93	.92	.95	.95	.90	.91
Con. California & Virginia	"	2 50	2 10	2.15	2 15	2.10	2.20	2.35
Cons. Imperial	"	1.00	.01	.01	.01	.01	.01	.01
Cons. New York	"	1.00	.....	.....	.....	.....	.....	.....
Crown Point	"	3.00	.27	.29	.27	.27	.28	.28
Exchequer	"	1.00	.....	.....	.....	.....	.....	.....
Gould & Curry	"	3.00	.43	.44	.44	.40	.45	.45
Hale & Norcross	"	3.00	.33	.35	.35	.34	.34	.37
Julia Con.	"	1.00	.02	.02	.03	.02	.02	.02
Justice	"	2.00	.07	.08	.08	.07	.07	.08
Kentuck Con.	"	1.00	.05	.07	.04	.03	.05	.05
Mexican	"	3.00	.57	.60	.58	.56	.60	.62
Occidental Con.	"	3.00	.24	.22	.22	.22	.22	.22
Ophir	"	3.00	1.05	1.10	1.15	1.05	1.15	1.20
Overman	"	2.00	.11	.12	.11	.10	.12	.13
Potosi	"	3.00	.50	.52	.51	.47	.51	.51
Savage	"	2 50	.23	.24	.23	.23	.24	.24
Seg. Belcher & M.	"	2.00	.07	.07	.07	.06	.07	.07
Sierra Nevada	"	3.00	.61	.63	.62	.60	.62	.68
Silver Hill	"	1.00	.....	.....	.....	.....	.....	.....
Standard	Cal.	10.00	2 75	2.60	2.70	2.60	2.65	2.66
Union Con.	Nev.	2.50	.36	.40	.38	.37	.38	.40
Utah Con.	"	1.00	.11	.11	.11	.12	.11	.13
Yellow Jacket	"	3.00	.37	.39	.37	.33	.35	.37

Official telegraphic quotations of San Francisco Stock Exchange.

TORONTO, CAN.*

NAME OF COMPANY.	Par val.	July 26. B.	July 26. A.	July 27. B.	July 27. A.	July 28. B.	July 28. A.	July 29. B.	July 29. A.	July 31. B.	July 31. A.	Aug. 1. B.	Aug. 1. A.	Sales
Ontario:														
Bullion	$1	.60	.63	.60	.....	.60	.....	.60	.....	.60	.....	.60	.....	.....
Empress	1	.03¾	.06	03¾	.05¼	04	.06	.04	.03¾	03¾	.05	.04	.06	5,500
Golden Star	1	.41¾	.44	.44	.45½	.43	.45	43¾	43¾	.46½	.48	.45	.46¾	37,700
J. O. 41.	1	.02¾	.03¾	.02¼	.03½	.02¼	.03¾	.02¾	.03	02¾	03¼	.02½	.03½	2,200
Olive	1	.25	.35	.16	.36	.79	.85	.85	.....	.85	.....	.72	.85	.....
Sov. G. & C.	1	.24¾	.25½	24¼	.25½	.24	.26	.....	.....	.....	.....	24¾	.26	1,500
British Col.:														
Alice A.	1	.18	.21	.19	.21	19¼	21	.19	.20¼	18¾	20	.18¾	.19½	1,000
Athabaska	1	.35	39	.55	.40	.35	.39	.....	.....	.36	.40	.37	.39½	500
Big Three	1	.14¼	.16	.13½	.16	.14	.15¾	.13½	.16	14	.17	.14½	.18	7,000
Dardanelles	1	.11	.12¾	.11½	.12	11	.12	.11¼	.12¾	.11	.12¾	11	.12½	3,000
Deer Park	1	.01	.03	.01	.02	.01	.03	.01¾	.02¾	.01	.04	.03	.04	400
DeerT'lNo.2	1	.23	.25	.24	.26	.24	.26	.24	.25	.23	.25½	.23¾	.24¾	21,50
Even'g Star	1	.03½	.10¾	.03½	.09¾	.03¾	.10¾	.03½	.10	.02	.10¼	.12	.....	.....
F'view corp	¼	.08	.09	.08	.09	.08¼	.09	.08½	.08¾	.08¼	.09	.08½	10	6,000
Knob Hill	1	.92	.97	.....	.....	.90	.95	.....	.....	.....	.....	.....	.....	.....
Minnehaha	1	.20¾	23	.20¾	.22	.20¾	.22	.20¾	.22	.21½	23	20	.22	4,500
Noble Five	1	.19½	.22	20	.25	19	.22	.22	.22	.22	.23	.18	.19¾	5,5 0
N'rt'n Belle	1	.01¾	.03	.02	.03	.01¾	.04¾	.01¾	.03¼	.01½	.03	.01¾	.03	.....
Old Irons'es	1	1.08	1.12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rambler C.	¼	.24	28	.25	.30	.25¼	.28	.25¾	28	25¼	.29	.24	29	500
Rathmullen	1	.06¾	.07¾	.06¾	.07¾	.06½	.07	.06¾	07	.06¾	.07¾	.06½	.07¾	1,5.0
Republic	1	1.18	1 21	1.17	1 23	1.16	1.22	1.18	.22	1.16	1.22	1 17½	1.22	2,000
Silver Bell	¾	.02¾	.04	018¾	.03¾	.02¼	.03¾	02	.03¾	.02¼	.03¼	.02¾	03¾	7,500
Smuggler	1	.01¾	03¾	.01¾	.04	.01¾	.03	.01¾	.03¼	.02	.02¾	.....	.....	2,000
Van Anda	1	.10¾	11¾	.11¾	.11¾	10¾	.11¾	10¾	.11	1.¾	.11¾	10¾	.11¾	54,600
Victory Tri.	1	04	07	.04¾	.08	05	07	.05¾	.06	.03½	.07	05¼	.06¾	5,000
Waterloo	.10	08	.09½	.08	.09	.08	09	.08	.09¼	.08	.09¼	.08¾	09	2,000
White Bear	1	.03¼	04¾	.03¾	.04¾	.03¼	.04¾	.03¾	.04¾	03	.04	.03½	.04¾	.....
Winnepeg	1	26	30	.28	.31	27½	30	.30¾	.28	26	.30	27	.30	1,500
Develop Co.														
B.C.G.Flds	1	.03¾	.06	03½	04½	03¼	.04¾	.03¾	.04¾	.06	05	.03¾	.04¾	.....
Can.G.F.S.	0.10	.06¾	08	.06¾	08	06¾	.07¾	.06½	.08	.06	.08	.06	.....	.....
Gold Hills	1	.04	.06	.04	.06	.04¾	05¾	.05¾	.....	.04	.05¼	.04¾	.05¾	3,000

*Official quotations of the Standard and Toronto Mining and Industrial Exchanges. Total, shares sold, 190,450.

SALT LAKE CITY, UTAH.* July 29.

STOCKS.†	No. of shares	Par val.	Bid.	Asked.	STOCKS.†	No. of shares.	Par val.	Bid.	Asked
Ajax	300,000	$10	$1.00	$1.80	Homestake	400,000	$1	$0.09	.....
Alice	400,000	25	.70	1 00	Horn Silver	400,000	25	1.25	$1.75
Anchor	150,000	10	.55	.....	Joe Bowers	400,000	1	.17¾	.17¾
Buckeye	500,000	1	.03¾	.03½	Little Pittsburg	400,000	5	08	12¼
Bullion-Beck & Ch.	100,000	10	5.75	.....	Lower Mammoth	150,000	1	.35	.36
Centennial Eureka	30,000	50	49 00	.....	Mammoth	400,000	5	1.91	1.03¼
Chloride Point	500,000	1	.68	.85	Mercur	200,000	25	6 87½	7.10
Daisy	500,000	3	.37	.38	Northern Light	400,000	5	.37¼	.38¾
Dalton	500,000	5	.01¾	01¾	Omaha	300,000	2	.24	.....
Dalton & Lark	2,500,000	1	.08	.11	Ontario	150,000	100	7.50	8 50
Daly	150,000	20	1.45	1.52	Richmond-An.	500,000	1	10	.....
Daly West	150,000	20	12.10	12 25	Sacramento	1,000,000	5	46¾	.47
Dexter	300,000	5	2.02½	2.50	Silver King	150,000	20	45.00	51.00
Eagle	150,000	1	.06	.07	Star Consolidat'd	500,000	1	.65	.80
Eagle & Blue Bell	250,000	1	1 65	1.69	Sunbeam	250,000	1	.50	55
Emerald	300,000	1	.10¾	.14	Sunshine	250,000	10	.58¾	.70
Four Aces	250,000	1	.26¾	.26¾	Swansea	100,000	5	4 01	4.25
Galena	100,000	10	.33	.34	South Swansea	150,000	1	1.70	1 75
Geyser-Marion	300,000	5	.47	47¾	Utah	100,000	1	.70	1 10
Grand Central	250,000	1	9 15	9 90	Valeo	300,000	10	.70	.80

*From Our Special Correspondent. † Utah companies. § Mines in Vanderbilt, Cal. Mines in Tuscarora, Nev.

ROSSLAND, BRITISH COLUMBIA.* July 27.

NAME OF COMPANY.	No. of shares.	Par value.	Selling price.	NAME OF COMPANY.	No. of shares.	Par value.	Selling price.
Brandon & Gold. Cr.	1,500,000	$1	$0.28	Lerwick	500,000	$1	.....
Brit. Amer. Corp'at'n	7,500,000	5	5.25	Lily May	1,000,000	1	.12
Brit.Col. Dev. Co.	1,500,000	2½	.....	Lon.&Van.Fin.Dev.Co	500,000	5	.....
Canadian Gold Fields	10,00,,000	0.10	.10	London B. C. Gold F.	250,000	5	.....
Cariboo	1,800,000	1	1.30	Monte Cristo	1,000,000	1	.....
Commander	500,000	1	.....	New Gold Fields, B.C.	250,000	1	.....
Deer Park	1,000,000	1	.....	Novelty	1,000,000	1	.....
Dundee	1,000,000	1	24	Queen Bess Prop	120,000	5	5.25
Evening Star	1,000,000	1	.10	Rambler Con	1,000,000	1	.25
Fern	200,000	¼	.45	Reco	1,200,000	1	.....
Gold Fields of B.C.	3,000,000	5½	.....	Red Mt.View	1,000,000	1	.....
Hall Mines	250,000	5	.....	St. Elmo	1,000,000	1	.05
Hattie Brown	1,000,000	1	.....	St. Paul	1,000,000	1	.....
Homestake	1,000,000	1	.....	Sarah Lee	1,000,000	1	.....
Iron Colt	1,000,000	1	.....	Silver Queen	1,500,000	1	.15
Iron Horse	1,000,000	1	.....	Slocan Star	500,000	1	1.25
Iron Mask	500,000	1	.75	Vic.Tr. MinesDev. Co.	25,000	5	.....
Josie	700,000	1	.....	Virginia	500,000	1	.....
Jumbo	500,000	1	.....	War Eagle Con	2,000,000	1	3.65
Kenneth	1,000,000	1	.....	Waverly Mines	100,000	5	.....
Keystone	1,500,000	1	.....	White Bear	3,000,000	1	.....
KootenayGold Fields	20,000	5	.....	Wild Horse	400,000	1	.....

* From Our Special Correspondent.

MEXICO. July 20.

NAME OF COMPANY.	No. of shares.	Last div'd.	Prices. Op'g	Prices. Cl'g.	NAME OF COMPANY.	No. of shares.	Last div'd	Prices. Op'g.	Prices. Cl'g.
Chihuahua:					Hidalgo:				
Gloria	1,500	.....	$50	$50	Real del Monte	2,354	10.00	760	750
Durango:					San Francisco Rio	6,000	2.00	170	190
Barradon y Cab	2,400	.....	50	40	San Rafael y An.	1,200	10.00	1,010	1,000
Candelaria de Pan.	1,200	.....	20	20	do. aviado	1,200	6.00	420	400
Capuzaya	2,400	.....	50	30	do. del Oro	3,000	5.00	20	5
Penoles	2,500	30.00	2,000	2,000	Soledad	960	5.00	00	290
Restauradora	10,000	.....	30	20	Sorpresa	960	5.00	25	240
Rosario y Anexas	4,800	.....	10	10	Union Hacienda	2,000	5.00	8	380
Guanajuato:					Mexico:				
Angustias	2,400	5.00	350	340	Coronas	500	.....	7	75
Cinco Senores y An	2,000	15.00	300	330	Esperanza y An.	3,000	10.00	450	1,400
El Oro	500	.....	30	30	Michoacan				
do. pref.	2,000	.....	30	30	Luz de Borda ava	3,000	.....	22	30
Guadalupe Hacie'a	10,000	5.00	250	250	do aviado	1,000	.....	20	20
Trinidad, aviador	2,000	.....	115	90	Pueblo:				
do. aviado	400	.....	95	80	Tlausingo	3,400	.....	27	28
Zona Minera de Paz	2,400	.....	60	68	S. Luis Potosi:				
Hidalgo:					Concep. y An	2,400	.....	60	100
Amistad y Concord	9,600	1.52	34	34	Sta.MariadelaPaz	2,400	10 00	715	720
Arevalo	720	.....	100	200	Zacatecas:				
Bartolome de Med	2,000	5.00	80	70	Asturiana y An	2,500	10.00	100	140
Carmen	1,100	7.75	4'0	4 0	Cabezon	2,400	.....	15	15
Lus de Maravillas	1,100	.....	180	150	C'delar. de Pinos	2,500	.....	95	90
Pabellon	1,000	27.89	20	20	Palma de Somb	2,400	.....	100	80

NOTE.—In most of the older Mexican mining companies the shares have no fixed par value The capital is formed of a certain number of shares, the total value not being named Many newer companies have a nominal par value, usually $50 or $100. Prices are in Mexican dollars.

PARIS. July 13.

NAME OF COMPANY.	Country.	Product.	Capital Stock.	Par value.	Latest divs.	Prices. Op'ning.	Prices. Closing.
			Francs.	Fr.	Fr.	Fr.	Fr.
Aciories de Creusot	France	Steel mfrs.	27,000,000	2,000	75.00	2,030.00	2,075.00
" " Firminy	"	"	3,000,000	500	35.00	3,500 00	3,500.00
" " Huta-Bank.	Russia	Iron & steel	12,000,000	500	35.00	582.00	566.00
" " la Marine	France	Steel mfrs.	.....	500	.....	4,500.00	4,480.00
" " Longwy	"	"	20.000,000	500	40.00	1,630.00	1,630.00
Anzin	"	Coal	.....	500	35.00	1,280.00	1,275.00
Blache-St. Vaast	"	Steel	.....	190.00	5,975.00	5,899 00	
Boleo	Lower Cal.	Copper	.....	1,000	160.00	3,800.00	3,800.00
Briansk	Russia	Coal & Iron	.....	500	1.07	2,505.00	2,545.00
Bruay	France	Coal	3,000,000	500	.....	1,290 00	1,297.50
Cape Copper	S. Africa	Copper	15,000,000	400	900.00	45,000.00	45,000.00
Champ d'Or	"	Gold	3,375,000	50	1.80	110 50	107.50
Courrieres	France	Coal	800,000	25	3.75	51 00	54.50
De Beers Consolidated	S. Africa	Diamonds	98,750,000	500	60.00	2,510.00	2,495.00
Denain-Anzin	France	Steel	.....	125	15.63	707.00	730. 0
Dombrowa	Russia	Coal	.....	500	20.00	930.00	934.00
Donetz	"	Steel	.....	500	12.50	1,090 00	1,090.00
Dourges	"	Coal	.....	.....	.....	1,320.0.	1,335.00
Dynamite Centrale	France	Explosives	.....	1,000	800.00	25,000.00	24,750 00
Epinac	"	Coal	.....	500	12.50	520.00	5 0.00
Escombrera-Bleyberg	Spain	Lead	.....	2,500	20.83	575.00	575.00
Fraser River	Brit. Col'mb	Gold	250,000	500	35.00	1,097.00	1,057.50
Huanchaca	Bolivia	Silver	40,000,000	25	.....	7.00	7.00
Langlaagte Estate	S. Africa	Gold	11,250,000	125	5.00	83.00	83.00
Lazunas	Chile	Nitrates	16,250,000	25	11.25	85.00	91.00
Laurium	Greece	Zinc & lead	16,300,000	125	12.51	35.00	28.00
Lautaro	Chile	Nitrates	13.750,000	500	30.00	625.00	610 00
Malfidano	Italy	Zinc	12,500,000	125	.....	98.00	9.00
Metaux, Cie. Fran. de	France	Steel d'iers.	25,000,000	500	40.00	1,310.00	1,280.00
Mokta-el-Hadid	Algeria	Iron	15,312,500	500	30.00	572.00	530.00
Naphte Baku	Russia	Petroleum	.....	500	40.00	1,230.00	1,20 00
Napthe, Le	"	"	.....	.....	.....	880.00	878.00
Napthe Nobel	"	"	.....	.....	.....	1,875.00	2,000.00
" " parts	"	"	.....	.....	.....	663.00	655.00
Nickel	N.Caled'nia	Nickel	10,000,000	200	30.00	13.3C. 0	13,300.00
Penarroya	Spain	Coal, etc	.....	500	65.00	393 0	395.00
Rebecca	Colo'do,U.S.	Gold	5,000,000	25	.....	2,600 0	2,600.00
Rio Tinto	Spain	Copper	40,625,000	125	47.70	6.00	7.00
" " preferred	"	"	40,625,000	125	.....	1,125.00	1,166.00
Rive-de-Gier	France	Coal	.....	.....	.....	153.50	153.50
Robinson	S. Africa	Gold	68,759,000	125	12.50	19.50	20.00
St. Etienne	France	Coal	.....	.....	.....	221.00	271 00
Salines de l'Est	France	Salt	.....	500	11.50	479.75	476 00
Salines du Midi	France	" etc	.....	500	25.00	2e5.00	262.00
Sels Gem.de la Rus. Mer	Russia	" etc	.....	500	25.00	900.00	900 00
Tharsis	Spain	Copper	38,750,000	50	8.75	545.00	543.00
Vicoigne-Neux	France	Coal	.....	1,000	700.00	24,000.00	24,000.00
Vieille Montagne	Belgium	Zinc	9,000,000	80	30.00	770.00	765.00

STOCK QUOTATIONS.

LONDON.

July 21.

Name of Company.	Country.	Authorised capital.	Par value.	Last dividend. Amt.	Last dividend. Date.	Quotations. Buyers	Quotations. Sellers
			£ s. d.	s.d.		£ s. d.	£ s. d.
Alaska Goldfields	Alaska	£300,000	1 0 0	2 1	Mar., 1899	1 1 3	1 3 9
Alaska-Mexican, g	"	200,000	1 0 0	0 4.8	May, 1899	17 6	1 2 6
Alaska-Treadwell, g	"	1,000,000	5 0 0	1 6	"	4 10 0	4 15 0
Anaconda, c., g	Montana	6,000,000	5 0 0	5 1¼	May, 1899	11 1 0	11 15 0
Chiapas, g., s., c	Mexico	252,500	1 0 0	.....	.....	5 0	7 0
Con. Gold Fields	"	300,000	1 0 0	.....	.....	17 6	1 0 0
De Lamar, g., s.	Idaho	400,000	1 0 0	6	May, 1899	2 6	3 6
Elkhorn Priority (New), s	Colorado	87,500	1 0 0	1 0	June, 1898	1 3	3 9
Golden Gate, g	California	80,000	1 0 0	.....	.....	1 0	2 0
Grand Central, g., s.	Mexico	300,000	1 0 0	2 0	Mar., 1899	17 6	1 2 6
Hall Mines, c., s.	British Col	250,000	1 0 0	1 0	May, 1898	10 0	12 6
" "	"	1,000,000	5 0 0	.....	.....	6 18 9	7 1 3
Le Roi, g	Colorado	250,000	1 0 0	2½	July, 1899	1 6 3	1 8 9
Lillie, g	British Col	300,000	1 0 0	.....	.....	3 0	5 0
Lillooet, F. R. & Car., g	Montana	600,000	1 0 0	6	Apr., 1899	4 0	5 5 0
Montana, g., s.	California	1,250,000	5 0 0	2 6	Sept., 1898	7 7 6	7 12 6
Mountain Copper	Newfoundland	250,000	1 0 0	.....	.....	17 6	1 2 6
Newfoundland, c	Mexico	800,000	1 0 0	.....	.....	2 0	3 0
Palmarejo & Mexican, g., s	California	281,250	2 0 0	0 6	Oct., 1896	1 3	2 6
Plumas-Eureka, g	Nevada	270,000	5 0 0	1 0	Dec., "	5 0	6 3
Richmond, g., s., l.	California	245,000	2 0 0	0 6	Apr., "	6	1 0
Sierra Buttes, g	Colombia	75,000	1 0 0	6	Jan., 1899	6 3	8 9
Columb. Hydraulic, g	Chile	200,000	2 0 0	6 0	July, 1899	3 12 6	3 17 6
Copiapo, c	Colombia	140,000	1 0 0	1 6	June, 1899	2 2 6	2 5 0
Frontino & Bolivia, g	Brazil	600,000	1 0 0	1 3	June, 1899	1 7 6	1 10 0
St. John del Rey, g	Colombia	70,000	5 0 0	3 0	July, 1897	1 15 0	2 5 0
Tolima A., s., g	"	80,000	5 0 0	5 0	"	1 0 0	1 10 0
Tolima B., s., g	Utah	800,000	1 0 0	rts.	Mar., 1898	8 15 0	9 5 0
UtahCon. g (High'ndBoy)	BritishCol'mbia	200,000	1 0 0	.....	.....	1 3 9	1 6 3
Ymir, g	"	1,500,000	1 0 0	rts.	Dec., 1898	1 0 6	1 1 6
British Am. Corp.	Spain	45,000	3 0 0	12 6	Mar., 1899	7 10 0	8 10 0
Linares, l.	Portugal	630,000	2 0 0	5 0	May, 1899	3 15 0	4 0 0
Mason & Barry, c., sul.	Spain	1,625,000	5 0 0	1 7 6	May, 1899	45 12 6	45 17 6
Rio Tinto, c	"	1,625,000	5 0 0	2 6	May, 1899	6 2 6	6 5 0
" pref.	"	1,250,000	2 0 0	11 0	" 1898	8 0 0	8 5 0
Tharsis, c.	Italy	252,000	5 0 0	2 6	June, 1899	1 15 0	2 0 0
Libala, c	W. Australia	500,000	1 0 0	2 0	June, 1899	10 10 0	10 12 6
Assoc. Gold Mines	N.S. Wales	384,000	8 0 0	1 0	July, 1899	2 2 6	2 5 0
Broken Hill Prop., s	W. Australia	1,750,000	2 0 0	1 6	July, 1899	1 10 0	1 11 1
Great Boulder, Prop.	"	110,000	1 0 0	7 6	Au '., 1899	11 11 3	11 13 9
Hannan's Brownhill, g	"	1,000,000	5 0 0	5 0	May, 1899	13 1 3	13 3 9
Ivanhoe Gold Corp.	"	120,000	1 0 0	rts.	Feb, 1899	0 1 3	3 10 3 9
Kalgurlie, g	"	250,000	1 0 0	5 0	May, 1899	25 10 0	25 12 6
Lake View Consols, g	Tasmania	975,000	3 0 0	3 0	July, 1899	9 6 0	9 5 0
Mt. Lyell M. & R., l., c.	Queensland	1,000,000	1 0 0	7	July, 1899	5 5 0	5 7 6
Mt Morgan, g	New Zealand	320,000	1 0 0	2 0	June, 1899	6 18 9	7 1 3
Waihi, g	W. Australia	1,000,000	1 0 0	1 0	Dec, 1898	7 9	8 3
West Aust. Jt. Stk. L. & F.	Colar Fields	220,000	10 0 0	3 6	May, 1899	5 2 6	5 5 0
Champion Reef, g	"	250,000	10 0 0	5 6	Mar., 1899	5 7 6	5 10 0
Mysore Gold, g	"	242,000	1 0 0	1 6	" 1899	3 0 0	3 2 6
Nundydroog, g	"	145,000	1 0 0	2 6	Aug., 1899	3 12 6	3 15 0
Ooregum, g	"	120,000	1 0 0	2 6	" 1899	4 8 9	4 11 3
pref. g	Transvaal	275,000	1 0 0	5 0	Mar., 1899	7 7 6	7 12 6
Angelo, g	"	200,000	1 0 0	11 0	June, 1898	4 12 6	4 17 6
Bonanza, g	So. Africa	5,000,000	1 0 0	rts.	May, 1899	3 3 9	3 6 3
British S. Af., chartered	"	600,000	1 0 0	5 0	July, 1899	4 0 0	4 5 0
Cape Copper, c	"	150,000	2 0 0	5 0	" 1899	4 2 6	4 12 6
pref	Transvaal	1,360,000	4 0 0	8 0	Aug., 1899	6 1 3	6 3 9
City & Suburban (New), g	"	300,000	1 0 0	x all	June, 1898	1 10 0	1 15 0
Con. Deep Level, g	"	120,000	1 0 0	10 0	May, 1899	17 10 0	18 0 0
Crown Reef, g	Cape Colony	3,950,000	5 0 0	£1	June, 1899	28 10 9	28 13 9
De Beers Con., d	Transvaal	135,000	1 0 0	5	June, 1899	3 5 0	3 10 0
Durban Roodepoort, g	"	90,000	1 0 0	30 0	Feb., 1899	7 2 6	7 7 6
Ferreira, g	"	350,000	1 0 0	8 0	Aug., 1899	10 10 0	11 0 0
Geldenhuis Deep, g	"	200,000	1 0 0	7 6	" 1899	8 2 6	8 7 6
Geldenhuis Est., g	"	160,000	1 0 0	4 0	Feb., 1899	3 12 6	3 17 6
Ginsberg, g	"	125,000	1 0 0	10 0	June, 1899	8 15 0	9 0 0
Henry Nourse, g	"	115,000	1 0 0	5 0	Aug., 1899	7 2 6	7 7 6
Heriot (New), g	Orange Fr. St.	1,000,000	5 0 0	0 0	June, 1899	13 17 6	14 2 6
Jagersfontein, d	So. Africa	2,750,000	1 0 0	2 0	Aug., 1897	1 16 3	1 18 9
Johannesburg Con. Invst	Transvaal	50,000	1 0 0	5 0	Aug, 1899	6 15 0	7 5 0
Jubilee, g	"	100,000	1 0 0	5 0	Aug., 1899	6 0 0	6 5 0
Jumpers, g	"	275,000	1 0 0	2 0	Mar., 1899	1 8 9	1 11 3
Kleinfontein, g	"	500,000	1 0 0	3 0	June, 1899	3 7 6	4 10 0
Langlaagte Estate, g	"	275,000	1 0 0	rts.	June. 1899	5 10 0	5 12 6
May Con., g	"	85,030	1 0 0	rts.	Apr., 1899	6 7 6	6 12 6
Meyer & Charlton, g	Cape Colony	200,000	1 0 0	6 6	June, 1899	4 0 0	4 5 0
Namaqua, c	Transvaal	300,000	1 0 0	6 0	Feb., 1899	4 11 3	4 13 9
§Primrose (New), g	So. Africa	400,000	1 0 0	15 0	Aug., 1899	41 5 0	41 10 0
Rand Mines, g	Transvaal	2,750,000	5 0 0	8 0	Aug., 1899	10 7 6	10 12 6
Robinson, g	"	1,100,000	1 0 0	0 6	July, 1898	1 3 9	1 6 3
Sheba, g	"	5,000,000	5 0 0	4 0	June, 1899	6 13 9	6 16 3
Stm. & Jack Prop., g	"	80,000	1 0 0	15 0	June, 1899	13 10 0	14 0 0
Wemmer, g	"	880,000	4 0 0	2 0	Feb, 1899	5 2 6	5 5 0
Wolhuter, g	"	100,000	1 0 0	3 0	May, 1899	3 0 0	3 5 0
Worcester, g	"						

§ Dividend pending * Ex-Dividend.

MEETINGS.

Name of Company.	Location	Meeting.	Date.	Place of Meeting.
Calumet & Hecla	Michigan.	Annual.	Aug 18.	Boston, Mass.
Gold Treasure	Utah	"	Aug. 10.	35-36 Commercial Blk., Salt Lake City, Utah.
Iowa	Colorado.	"	Aug 11.	Denver, Colo.
Silver State	Utah	"	Aug. 12.	428 Atlas Block, Salt Lake City, Utah.

ASSESSMENTS.

Name of Company.	Location.	Delq.	Sale.	Amt.	Office.
		July			
Ben Butler	Utah	18	Aug 15	.02	Progress Bldg. Salt Lake City, Utah.
Con. Imperial	Nev. 42	20	Aug. 10	.01	Mills Building, San Francisco, Cal.
Great Eastern	Utah 2	22	Sept 9	.00½	Walker Bank Bldg., Salt Lake City.
Mayday	Cal 2	10	Aug. 28	.10	24 Post st., San Francisco, Cal.
Silver King	Ariz 21	10	Aug. 8	.25	310 Pine st., San Francisco, Cal.
		Aug.			
Alpha Con.	Nev.. 22	16	Sept. 7	.03	309 Montgomery st., San Francisco.
Belcher	Nev. 61	16	Sept. 6	.10	Mills Bldg., San Francisco, Cal.
Best & Belcher	Nev.. 67	4	Aug. 25	.10	309 Montgomery st., San Francisco.
Challar	Nev.. 49	24	Sept. 14	.15	Mills Bldg., San Francisco, Cal.
Golden Chan. Gr.	Cal	1		.01½	
Justice	Nev. 65	8	Aug. 29	.10	309 Montgomery st., San Francisco.
Old Bonanza	Cal. 1	1	Aug. 19	.02½	163 Crocker Bldg., San Francisco, Cal.
Ophir	Nev.. 75	8	Aug. 28	.15	309 Montgomery st San Francisco.
Rose Creek	Cal 3	1	Aug. 19	.05	163 Crocker Bldg., San Francisco, Cal.
Sierra Nevada	Nev.. 16	18	Sept. 7	.15	Nevada Block, San Francisco, Cal.

DIVIDENDS.

Name of Co.	Date.	Am't.	Paid 1899.	Grand Total.
Alamo, Utah			$2,500	$2,500
Alaska-Mexican			36,000	353,031
Alaska-Treadwell			150,000	4,070,000
Ætna Con.	July 1	$10,000	30,000	180,000
American Coal			75,000	652,500
American Gold			48,000	434,000
Am. Zinc-L. & Sm.	July 1	20,000	20,000	20,000
Anaconda Copper			1,500,000	9,750,000
Anchoria-Leland			36,000	198,000
Apollo Con., Alas			40,000	140,000
April Fool, Nev	Aug. 1	6,000	6,000	6,000
Argonaut, Cal.			120,000	300,000
Aurora Iron			50,000	800,000
Bald, Butte	July 11	15,000	75,000	724,648
Bonanza Dev.			1,050,000	1,500,000
Boston-Aurora	July 25	5,328	5,328	5,328
Boston-Duenweg, z	July 15	4,000	12,000	12,000
Boston-Providence	July 15	750	4,500	4,500
Boston & Cal			72,000	72,000
Boston & Mont.	Aug 21	1,500,000	3,150,000	12,275,000
Breece			20,000	50,000
Bul. Bec. & Champ.	July 15	10,000	70,000	2,388,400
Bunker Hill & S.			105,000	705,000
Calumet & Hecla			6,000,000	62,850,000
Cariboo-McKinney			75,000	311,935
Centenn'l Eureka	July 15	15,000	105,000	2,135,000
Central Lead			30,000	112,000
Charleston, S. C.			20,000	200,000
Colorado Sm.			100,000	1,945,000
Consolidation Coal			205,000	5,716,650
D'Ex'l No 2 Wash			15,000	32,500
Doe Run, Mo.	July 15	2,500	17,500	77,500
De Lamar, Idaho			48,900	2,346,000
El Dorado, Cal	July 20	10,000	10,000	10,000
Empire State, Ida.	Aug 15	20,000	144,331	205,638
Fanny Rawlings			10,000	10,000
Ferris-Hagty, Wyo			5,000	5,000
Garfield Con.			12,000	34,000
Gold Coin, Vict.	July 25	10,000	70,000	220,000
Golden Cycle	July 18	10,000	55,000	208,500
Gold King, Col.			30,000	30,000
Golden M. & Ex.			10,000	10,000
Golden Star, Ont.	July 1	11,000	41,000	41,000
Grand Central, Ut.	July 10	$37,500	$250,000	$568,750
Grass Valley Ex.	July 20	7,500	22,500	22,500
Gwin, Cal	July 11	5,000	25,000	76,500
Helena & Frisco			125,000	550,000
High Five, Colo	July 25	10,000	10,000	10,000
Highland	July 15	20,000	140,000	3,924,718
Holy Terror			5,000	122,000
Homestake	July 25	62,500	437,500	7,618,750
Horn Silver	July 1	20,000	40,000	5,270,000
Idaho, B. C.			28,000	292,000
Isabella			140,000	450,000
Jack Pot			25,000	25,000
Jamison, Cal.			11,700	50,700
Lake Superior Ir.			84,000	227,860
Last Chance, B. C.			20,000	45,000
Lillie	July 1	11,250	78,750	235,360
Mammoth	Aug. 1	40,000	120,000	1,470,030
Meadi, Cal			40,000	120,000
Mercur	July 1	25,000	50,000	1,291,000
Mo. Zinc Fields	July 10	2,664	5,328	5,328
Modoc	July 25	10,000	70,000	150,000
Montana, Ltd.			98,855	453,700
Mont. Ore Pur.	July 27	80,000	400,000	1,200,000
Morning Star, Cal.			44,400	732,620
Moulton, Mont			20,000	480,000
Mt. Shasta, Cal.			6,000	6,000
Napa Con.	July 1	20,000	60,000	1,010,000
New Central Coal			20,000	470,000
New Idria	July 1	20,000	60,000	140,000
N.Y. & H.-Rosario	July 20	15,000	90,000	1,080,000
North Star, Cal.			50,000	550,000
Olive			12,000	12,000
Orig. Empire, Cal.			50,000	500,000
Osceola			279,000	2,801,500
Parrot			552,000	2,690,898
Pennsylvania Cal.	Aug. 8	10,300	36,050	95,275
Pennsylvania Coal			800,000	14,050,000
Pioneer, Cal.			12,500	62,500
Portland	July 15	60,000	420,000	2,257,080
Queen Bess, B. Col.			12,150	12,150
Quicksilver (Pref.)			21,500	1,845,411
Quincy	Aug 15	600,000	950,000	11,070,000
Rambler Cariboo			10,000	50,000
Petro, Utah	July 28	$5,000	$5,000	$5,000
Republic, Wash.	Aug 15	35,000	129,500	295,000
Royal B. C.			50,000	1,050,000
Sacramento	Aug. 1	5,000	40,000	97,500
St. Joseph Lead.			75,000	2,859,500
Silver King	July 10	50,000	325,000	2,075,000
Small Hopes			25,000	3,325,000
Smuggler	July 15	10,000	70,000	1,165,000
South Swansea	July 21	7,500	30,000	134,060
Standard, Cal.			200,000	3,859,226
Standard, Ida.			30,000	1,745,000
Stroag.	July 15	25,000	175,000	700,000
Swansea	Aug 10	5,000	40,000	176,500
Tamarack			240,000	5,910,000
Tomboy			80,000	730,000
United Z. & L., pfd.	July 15	20,000	20,000	20,000
Utah, Utah			2,000	179,000
Vindicator	July 20	50,750	126,875	253,750
War Eagle, B. C.	July 15	26,250	183,750	361,500
Wolverine			90,000	150,000
Yellow Aster	July 10	10,000	65,000	233,789
Grand Total			$3,064,548	$20,179,017	199,715,177

DIVIDEND-PAYING MINES.

	Name and Location of Company.	Capital Stock.	Shares. No.	Shares. Par Val	Assessments. Total Levied.	Assessments. Date and Amount of Last.	Dividends. Total Paid.	Dividends. Date and Amount of Last.
1	Ætna Cons., q.	Cal ..	$500,000	100,000	$5	*	$180,000	July.. 1899 .10
2	Alaska-Mexican, g.	Alask	1,000,000	200,000	5		353,031	April. 1899 .10
3	Alaska-Treadwell, g.	Alask	5,000,000	200,000	25	*	4,070,000	April. 1899 .37½
4	Alamo, g. c. i.	Utah.	125,000	125,000	1	$937 Mar.. 1898 .00¼	2,500	April. 1899 .02
5	Alice, g. s.	Mont.	10,000,000	400,000	25	*	1,075,000	April. 1898 .05
6	American Coal	Md...	1,500,000	60,000	25		652,500	Mar.. 1899 1.25
7	American Gold, g. s. c. l	Colo..	3,000,000	300,000	10	*	407,000	Mar.. 1899 .07
8	Am. Zinc, Lead & Sm.	Mo...	500,000	200,000	25		20,000	July.. 1899 .10
9	Anaconda Copper	Mont.	30,000,000	1,200,000	25		9,750,000	May.. 1899 1.25
10	Anchoria-Leland, g.	Colo..	600,000	600,000	1	*	198,000	April 1899 .03
11	Appie Ellen, g.	Colo.	600,000	600,000	1		25,000	Aug.. 1898 .01
12	Argonaut	Cal ..	2,000,000	200,000	10		300,000	June. 1899 .10
13	Associated, g.	Colo..	1,250,000	1,250,000	1	*	72,000	Dec.. 1898 .01
14	Atlantic, c.	Mich.	1,000,000	40,000	25		780,000	Feb.. 1898 1.00
15	Aurora, i.	Mich.	2,500,000	100,000	25	*	890,000	June. 1899 .50
16	Bald Butte	Mont.	250,000	250,000	1	*	702,148	May.. 1899 .06
17	Big Six, g. s.	Colo.	500,000	500,000	1		15,000	May.. 1898 .00½
18	Bonanza, Dev.	NMex	3,000,000	300,000	10		1,500,000	June. 1899 3.50
19	Boston & California	Cal ..	600,000	600,000	1		36,000	Mar.. 1899 .06
20	Boston & Mont. Con.	Mont.	3,750,000	150,000	25	*	10,775,000	May.. 1899 6.00
21	Breece, i.	Colo..	3,500,000	700,000	5	*	50,000	June. 1899 .05
22	Bullion-Beck & Champ.	Utah.	1,000,000	100,000	10	*	2,378,400	June. 1899 .10
23	Bunker Hill & S., s. l.	Idaho	3,000,000	300,000	10		705,000	May.. 1899 .07
24	Calumet & Hecla, c.	Mich.	2,500,000	100,000	25		62,850,000	June. 1899 20.00
25	Cariboo, g.	B. C..	800,000	800,000	1		248,965	Feb.. 1899 .01½
26	Centen l-Eureka, g.s.l.c	Utah.	1,500,000	30,000	50	30,000 Mar.. 1889 1.00	2,120,000	June. 1899 .50
27	Central Lead, l.	Mo...	1,000,000	10,000	100	*	112,000	June. 1899 .50
28	Champion, g. s.	Cal...	340,000	34,000	10		296,200	April. 1898 .25
29	Charleston, p. r.	S. C..	1,000,000	10,000	100	*	200,000	June. 1899 2.00
30	Consolidation Coal	Md...	10,250,000	102,500	100		5,716,650	Feb.. 1899 2.00
31	Con. Tiger & Poorman	Idaho	1,000,000	1,000,000	1	*	20,000	Dec.. 1898 .02
32	Cœsus, g.	Cal...	1,000,000	200,000	5		30,000	Dec.. 1898 .15
33	Crowned King, g. s. l.	Ariz.	6,000,000	600,000	10	*	232,000	Dec.. 1898 .02
34	Deadwood-Terra, g.	S. D..	5,000,000	200,000	25	*	1,350,000	May.. 1898 .15
35	De Lamar, g. s.	Idaho	2,000,000	400,000	5		2,346,000	May . 1899 .12
36	Deer Trail No. 2.	Wash	1,000,000	1,000,000	1		32,500	June. 1899 .00¼
37	Doe Run, l.	Mo...	500,000	5,000	100		75,000	June. 1899 .50
38	Elkton Cons., g.	Colo..	1,250,000	1,250,000	1		656,961	Nov.. 1898 .01½
39	El Paso, g. s.	Colo..	650,000	650,000	1		12,393	Jan.. 1898 .01
40	Empire State-Idaho	Idaho	1,000,000	100,000	10		185,638	July.. 1899 .20
41	Enterprise, s. l.	Colo..	500,000	500,000	1		900,000	Sept.. 1898 .05
42	Fanny Rawlings, g. s.	Colo..	1,000,000	1,000,000	1		10,000	May.. 1899 .01
43	Ferris-Haggarty, c.g.s.	Wyo.	1,000,000	1,000,000	1		5,000	Mar.. 1899 .00½
44	Garfield Con., g.	Colo..	1,200,000	1,200,000	1		34,000	May.. 1899 .01
45	Geyser-Marion, g.	Utah.	1,500,000	300,000	5		96,000	Sept.. 1898 .02
46	Gold Coin of Victor, g.	Colo..	1,000,000	1,000,000	1		210,000	June. 1899 .01
47	Golden Cycle, g.	Colo..	1,000,000	200,000	5		198,500	June. 1899 .05
48	Gold King, g.	Colo..	1,000,000	1,000,000	1		30,000	May.. 1899 .02
49	Golden Reward, g.	S. D..	1,000,000	100,000	10		155,000	Feb.. 1898 .15
50	Golden Star	Ont..	100,000	100,000	1		41,000	July.. 1899 .01
51	Grand Central, g.	Utah.	250,000	250,000	1		531,250	June. 1899 .15
52	Grass Valley Expl	Cal...	100,000	30,000	2	*	22,500	July.. 1899 .25
53	Gwin, g.	Cal..	1,000,000	20,000	50	286,000 Jan.. 1898	71,500	June. 1899 .25
54	Hall Mines, Ltd.	B. C..	1,250,000	250,000	5		160,000	May . 1898 .25
55	Helena & Frisco, l. s.	Idaho	2,500,000	500,000	5	*	550,000	June. 1899 .25
56	Highland, g.	S. D..	10,000,000	100,000	100	304,000	3,624,718	July. 1899 .20
57	Holy Terror, g.	S. D..	500,000	500 000	1		122,000	Mar.. 1899 .01
58	Homestake, g.	S. D.	12,500,000	125,000	100	200,000 July.. 1878 1.00	7,556,250	June. 1899 .50
59	Hope of St. Louis, s.	Mont.	1,000,000	100,000	10	*	762,252	Mar.. 1898 .10
60	Horn-Silver, g. s. c. sp. l.	Utah.	10,000,000	400,000	25	*	5,279,000	July.. 1899 .05
61	Idaho	B. C..	500,000	500,000	1		292,000	Jan.. 1899 .05
62	Iowa, g.	Colo..	1,000,000	1,000,000	1		95,000	June. 1898 .00½
63	Iron Mountain, g. s. l. i.	Mont.	5,000,000	500,000	10	*	507,500	April. 1898 .02
64	Isabella, g.	Colo..	2,250,000	2,250,000	1		448,500	June. 1899 .02
65	Jack Pot, g.	Colo..	1,250,000	1,250,000	1		25,000	Mar.. 1899 .02½
66	Jamison	Cal ..	3,900,000	390,000	10	144,000 Nov.. 1896 .17	50,700	April. 1899 .10
67	Jersey Leasing	Colo..	200,000	158,167	1		137,875	Oct... 1898 .03½
68	Lake Superior Iron	Mich.	2,100,000	84,000	25		736,000	Feb.. 1899 1.00
69	Last Chance, s. l.	B. C..	500,000	500,000	1		45,000	April. 1899 .05
70	Le Roi	B. C..	5,000,000	200,000	25		825,000	April. 1898 .10
71	Lillie, g.	Colo..	1,250,000	250,000	5	*	235,360	July.. 1899 .05
72	Mammoth, g. s. c.	Utah.	10,000,000	400,000	25	*	1,430,000	July.. 1899 .20
73	Matoa, g.	Colo..	1,000,000	1,000,000	1		25,000	Dec... 1898 .02½
74	Mea l, g.	Cal...	200,000	200,000	1		120,000	June. 1899 .20
75	Mercur, g.	Utah.	5,000,000	200,000	25	*	1,266,000	Jan... 1899 12½
76	Minnesota Iron, i.	Minn.	16,500,000	165,000	100	*	4,735,000	Oct... 1898 1.50
77	Modoc, g.	Colo..	500,000	500,000	1		140,000	June. 1899 .02
78	Montana, Ltd., g. s.	Mont.	3,300,000	657,128	5	*	453,700	April. 1899 .12
79	Montana Ore Purchas'g	Mont.	2,500,000	80,000	25	*	1,200,000	July.. 1899 1.00
80	Moon-Anchor Con., g.	Colo..	1,750,000	600,000	1		261,000	Nov. 1898 .07½
81	Morning Star, g.	Cal...	240,000	2,400	100	70,800 Feb.. 1887 .75	732,690	June. 1899 2.50
82	Monument	Colo..	300,000	300,000	1		12,624	Dec.. 1898 .01
83	Mt. Rosa, g.	Colo..	1,000,000	1,000,000	1		60,000	Jan.. 1898 .02
84	Mt. Shasta	Cal...	100,000	20,000	5		6,000	May.. 1899 .30
85	Moulton	Mont.	2,000,000	400,000	5		480,00	Feb.. 1899 .05
86	Mountain Copper	Cal ..	6,250,000	250,000	25		93,750	Sept.. 1898 .62½
87	Napa Cons., q.	Cal ..	700,000	100,000	7	*	1,010,000	July. 1899 .20
88	New Central Coal	Md...	1,000,000	50,000	20		470,000	April. 1899 .40
89	New Idria, q.	Cal...	500,000	100,000	5		140,000	July.. 1899 .20
90	N. Y. & Hon Rosario, s. g.	C. A..	1,500,000	150,000	10	*	1,065,000	June. 1899 .10
91	North Star, g.	Cal ..	5,000,000	500,000	10	20,000 June 1885 .02	550,000	April. 1899 .25
92	Nuggett	Colo..	1,000,000	1,000,000	1		20,000	Aug.. 1898 .00½
93	Orphan Bell, g.	Colo..	1,000,000	1,000,000	1		115,000	Mar.. 1898 .01
94	Original Empire, g.	Cal...	5,000,0 0	50,000	100	975,000 Aug.. 1896 1.25	500,000	May.. 1899 1.00
95	Osceola, c.	Mich.	2,500,000	93,000	25	*	2,801,500	June. 1899 3.00
96	Parrot, c.	Mont.	2,300,000	230,000	10	*	2,690,898	May.. 1899 1.50
97	Pennsylvania Coal	Pa....	5,000,000	100,000	50		14,050,000	May.. 1899 8.00
98	Pennsylvania Cons.	Cal...	5,150,000	51,500	100	50,051 Feb.. 1892 .05	84,975	July.. 1899 .20
99	Pioneer g.	Cal...	1,000,000	100,000	10		62,500	Mar.. 1899 .12½
100	Portland, g.	Colo..	3,000,000	3,000,000	1	*	2,197,080	June. 1899 .02
101	Queen Bess, Prop. s. l.	B. C..	500,000	100,000	5		12,150	April. 1899 .12½
102	Quicksilver, pref.	Cal...	4,300,000	43,000	100		1,845,411	May.. 1899 .50
103	Quicksilver, com.	Cal...	5,700,000	57,000	100		643,867	July.. 1882 .40
104	Quincy, c.	Mich.	2,500,000	100,000	25	*	11,070,000	Aug.. 1899 6.00
105	Rambler-Cariboo	B. C..	1,000,000	1,000,000	1	*	50,000	April. 1899 3.01
106	Raven, g.	Colo..	1,500,000	1,500,000	1		19,500	Mar.. 1898 .01
107	Republic Cons., g.	Wash	3,500,000	3,150,000	1		183,000	June. 1899 .01
108	Royal Con., g.	B. C..	2,500,000	2,500,000	1		1,050,300	June. 1899 .01
109	Sacramento, g.	Utah.	5,000,000	1,000,000	5		92,500	July.. 1899 .00½
110	St. Joseph, l.	Mo...	3,000,000	300,000	10	*	2,859,500	June. 1899 .50
111	Santa Rosalia, g.s.	Cal...	100,000	100,000	1		125,000	Feb.. 1898 1.10
112	Silver King, g. s. l.	Utah.	3,000,000	150,000	20	3,000 Jan.. 1897 .02	2,025,000	June. 1899 .25
113	Small Hopes, s.	Colo..	5,000,000	250,000	20	*	3,325,000	Feb.. 1898 .10
114	Smuggler, s. l. z.	Colo..	1,000,000	1,000,000	1		1,155,000	June. 1899 .01
115	South Swansea, s. l.	Utah.	150,000	150,000	1		126,560	June. 1899 .05
116	Standard Cons., g. s.	Cal...	2,000,000	200,000	10	99,888 June. 1890 .50	3,859,226	May.. 1899 .10
117	Standard,	Idaho	500,000	500,000	1		1,745,000	April. 1899 .06
118	Swansea, s. l.	Utah.	500,000	100,000	5		166,500	June. 1899 .05
119	Tamarack, c.	Mich.	1,500,000	60,000	25		5,910,000	June. 1899 4.00
120	Tomboy, g.	Colo..	2,000,000	200,000	10		790,000	May.. 1899 4.00
121	Utah	Utah.	1,000,000	100,000	10	*	179,000	Jan.. 1899 .02
122	Victor, g.	Colo..	1,000,000	200,000	5	*	1,155,000	Dec.. 1898 .50
123	Vindicator, Cons. g.	Colo..	1,500,000	1,015,000	1		253,750	July.. 1899 .05
124	War Eagle, Cons.	B. C..	2,000,000	1,750,000	1		335,250	June. 1899 .01½
125	Whitewater..	B. C..	625,000	125,000	5		194,000	April. 1898 .32
126	Wolverine, c.	Mich.	1,500,000	60,000	25	180,000 Mar.. 1895 1.00	150,000	April. 1899 1.50
127	Yellow Aster, g.	Cal...	1,000,000	100,000	10	*	203,789	May.. 1899 .10

NON-DIVIDEND-PAYING MINES.

	Name and Location of Company.	Capital Stock.	Shares. No.	Shares. Par Val	Assessments. Total Levied.	Assessments. Date and Amount of Last.
1	Ada Cons., s. l.	Utah.	$100,000	100,000	$1	$3,333 Nov.. 1895 .01½
2	Alliance, g. s. l.	Utah.	150,000	150,000	1	200,000 Dec.. 1895 .10
3	Allouez, c.	Mich.	2,500,000	100,000	25	1,520,937 June. 1894 1.00
4	Alpha Cons., g. s.	Nev..	105,000	105,000	1	316,050 Nov. 1898 .03
5	Alta, s.	Nev..	216,000	108,000	2	3,675,710 June. 1899 .05
6	Alta	Utah.	750,000	750,000	1	938 Mar.. 1899 .00½
7	American Quartz, g.	Cal...	1,000,000	100,000	10	1,000 Feb.. 1897 .01
8	Anchor, g. s. l.	Utah.	1,500,000	150,000	10	560,000 Aug.. 1893 .20
9	Andes, g.	Nev..	300,000	100,000	3	1,205,000 June. 1899 .05
10	Arnold, c.	Mich.	1,500,000	60,000	25	180,000 Jan.. 1899 3.00
11	Baliol, g.	Cal...	1,000,000	100,000	10	55,000 Mar.. 1898 .30
12	Belcher, s. g.	Nev..	312,000	104,000	3	3,525,200 Mar.. 1899 .10
13	Belle Isle	Nev..	10,000,000	100,000	100	240,271 July.. 1896 .10
14	Benton Con. s.	Nev..	10,800,000	108,000	100	587,023 June. 1897 .25
15	Best & Belcher, g. s.	Nev..	302,400	100,800	3	2,609,803 Aug.. 1899 .10
16	Bogan	Utah.	1,250,000	125,000	10	26,875 Dec.. 1897 .01½
17	Boston & Cp. Ck., g.	Co'o..	400,000	200,000	2	20,000 Aug.. 1898 .10
18	Brunswick Cons., g.	Cal...	500,000	500,000	1	160,000 July.. 1897 .03
19	Bullion, s. g.	Nev..	100,000	100,000	1	3,125,000 May.. 1899 .05
20	Caledonia,	Nev..	300,000	200,000	3	3,210,000 Nov. 1897 .10
21	Centennial, c.	Mich.	2,500,000	100,000	25	460,000 Mar.. 1898 3.00
22	Central Eureka, g.	Cal...	4,000,000	400,000	10	123,942 July.. 1899 .02
23	Challenge Cons, s.g.	Nev..	150,000	50,000	3	430,000 Mar.. 1899 .05
24	Chollar, g. s	Nev..	336,000	112,000	3	2,059,800 Jan... 1899 .10
25	Confidence, g. s.	Nev..	74,880	24,960	3	545,118 May.. 1899 .20
26	Con., Cal. & Va.	Nev..	540,000	216,000	2½	734,000 May.. 1899 .25
27	Cons. Imperial, g. s.	Nev..	500,000	500,000	1	2,251,000 July.. 1899 .01
28	Con. New York	Nev..	100,000	100,000	1	160,500 Nov. 1898 .03
29	Crown Point, g. s.	Nev..	300,000	100,000	3	2,980,000 May.. 1899 .10
30	Dalton, s. l.	Utah.	2,500,000	500,000	5	58,750 April. 1899 .01
31	Dexter	Nev..	1,000,000	200,000	5	38,000 Apr.. 1898 .15
32	Diamond Con.	Utah.	1,000,000	200,000	5	8,000 Mar.. 1899 .04
33	Eagle, g. s.	Cal...	500,000	100,000	5	5,000 Dec.. 1896 .05
34	Eagle, g. s.	Ore..	1,000,000	100,000	10	6,000 Oct.. 1898 .01½
35	Emerald	Utah	300,000	300,000	1	3,000 Oct... 1898 .00½
36	Eureka Cons., g. s. l.	Nev..	1,000,000	50,000	20	585,000 Sept.. 1898 .20
37	Eureka Con. Drift, g.	Cal...	500,000	500,000	1	180,000 July.. 1899 .00½
38	Exchequer, g. s.	Nev..	1,000,000	100,000	1	1,020,000 Dec.. 1897 .05
39	Florence	Utah.	1,000,000	200,000	5	1,000 June. 1899 .00¼
40	Four Aces	Utah.	250,000	250,000	1	5,000 Mar . 1898 .01
41	Galena	Utah.	1,000,000	100,000	10	10,000 Oct.. 1898 .10
42	Geyser, s. l.	Colo..	5,000,000	500,000	10	1,175,000 May.. 1899 .10
43	Gold Belt, g. s.	Utah.	500,000	500,000	1	3,012 July.. 1896 .00½
44	Gold Coin	Colo..	1,000,000	200,000	5	10,000 Mar.. 1899 .05
45	Golden Eagle, g.	Nev..	400,000	400,000	1	4,000 April. 1899 .01
46	Golden Fleece Grav. g	Cal...	130,000	130	1000	56,360 Mar.. 1897 2.00
47	Gold & Silver Carb.	Utah.	500,000	500,000	1	2,500 Mar.. 1899 .00½
48	Gould & Curry	Nev..	324,000	108,000	5	4,625,150 July.. 1899 .10
49	Granite Hill, g. s.	Cal...	500,000	100,000	5	124,000 June. 1899 .03
50	Great Eastern, g.	Utah.	1,500,000	300,000	5	5,000 Oct . 1898 .00½
51	Great Western, q.	Cal...	5,000,000	50,000	100	75,520 May.. 1899 .15
52	Hale & Norcross, g.s.	Nev..	11,200,000	112,000	100	5,716,280 May.. 1899 .10
53	Head Center Con., s.g	Ariz..	5,000,000	200,000	25	25,125 Mar.. 1899 .20
54	Horse Shoe Bar Cons.	Cal...	6,000,000	60,000	100	85,800 Jan... 1899 .05
55	Joe Bowers, Ext. gcls.	Utah.	112,000	450,000	¼	9,000 July.. 1899 .01
56	Julia Con	Nev..	110,000	110,000	1	1,498,800 Jan... 1899 .03
57	Jupiter, g.	Cal...	2,000,000	20,000	100	80,000 Feb.. 1898 .20
58	Justice, g. s. c.	Nev..	210,000	105,000	2	3,662,500 Aug.. 1899 .10
59	Kentuck	Utah.	600,000	300,000	2	30,000 Aug.. 1898 .10
60	Kentuck Cons., s.	Nev..	105,000	105,000	1	125,300 June. 1898 .05
61	Lacrosse, g.	Colo..	1,000,000	100,000	10	*
62	Little Pittsburg	Utah.	2,000,000	400,000	5	21,000 June. 1899 .00¾
63	Lower Mammoth	Utah.	150,000	150,000	1	15,000 Oct.. 1898 .05
64	Lucky Bill	Utah.	300,000	120,000	2.50	56,400 June. 1898 .01½
65	Marguerite, g.	Cal...	500,000	50,000	10	80,000 June. 1899 .10
66	Marina Marsicano, g.	Cal...	1,000,000	100,000	10	49,360 June. 1899 .05
67	May Day	Utah.	100,000	400,000	¼	4,000 Jan.. 1899 .00½
68	Mayda , g. s.	Cal ..	50,000	50,000	1	10,000 July.. 1899 .10
69	Mayflower, g.	Cal...	1,200,000	60,000	20	6,000 Sept.. 1898 .05
70	Merced, g.	Cal...	1,500,000	100,000	15	200,000 July.. 1896 2.00
71	Meteor, s. l.	Utah.	600,000	300,000	2	6,734 Feb.. 1899 .01
72	Mexican, g. s.	Nev..	302,400	100,800	3	2,268,800 June. 1899 .10
73	Montreal	Utah.	2,500,000	250,000	10	30,625 April. 1899 .05
74	Mt. Diablo s.	Nev..	5,000,000	50,000	100	150,000 Dec.. 1898 .10
75	Morning Star, s.	Nev..	1,500,000	150,000	10	32,500 Dec.. 1898 .00½
76	Nashville, g.	Cal ..	115,000	11,500	10	2,000 Sept.. 1898 .17
77	North Banner, g. s.	Cal...	1,000,000	100,000	10	21,794 Oct... 1896 .02
78	North Belle Isle, s.	Nev..	10,000,000	100,000	100	523,074 July.. 1896 .10
79	No. Gould & Curry	Nev..	100,000	100 000	1	375,000 Dec.. 1898 .10
80	Northern Light, g.	Utah.	2,000,000	400,000	5	80,000 July.. 1898 .10
81	Occidental Cons g s.	Nev..	300,000	100,000	3	509,179 April. 1899 .10
82	Ophir, g. s.	Nev..	324,000	108,000	3	4,635,968 Aug.. 1899 .15
83	Opohonga	Utah.	200,000	100,000	2	1,500 June. 1898 .01
84	Oro Cache, g. s.	S. D..	1,250,000	250,000	5	6,250 July.. 1893 .00½
85	Osceola, g.	Cal ..	10,000,000	100,000	100	10,924 Sept.. 1898 .01
86	Overman, g. s.	Nev..	230,400	115,200	2	4,135,450 Mar.. 1899 .05
87	Peer, s.	Ariz..	10,000,000	100,000	100	215,000 July.. 1894 .05
88	Peerless, s.	Nev..	10,000,000	100,000	100	410,000 July.. 1894 .05
89	Pine Hill, g.	Cal ..	1,000,000	100,000	10	30,000 July.. 1897 .05
90	Potosi, g. s.	Nev..	336,000	112,000	3	2,168,400 May.. 1899 .10
91	Red Mountain, s.	Colo..	300,000	60,000	5	22,500 Mar.. 1891 .12½
92	Rescue, g.	Nev..	100,000	10,000	10	5,500 Feb.. 1899 .05
93	Reward, g.	Cal...	64,000	64,000	1	63,080 Nov.. 1898 .02
94	Ridge, c.	Mich.	500,000	20,000	25	239,939 Feb.. 1897 1.00
95	St. Mary, c.	Mich.	1,000,000	40,000	25	4,000 July.. 1895 .05
96	Savage, g. s.	Nev..	280,000	112,000	2½	7,309,800 Feb.. 1899 .10
97	Scorpion, s.	Nev..	100,000	100,000	1	445,000 Dec.. 1897 .05
98	Seg. Belcher & Mg s.	Nev..	200,000	100,000	2	373,000 June. 1899 .05
99	Sevier, g. s.	Utah.	1,250,000	250,000	5	50,000 April. 1897 .04
100	Shower Con	Utah.	2,000,000	400,000	5	8,000 Aug.. 1899 .02
101	Sierra-Nevada, g. s.	Nev..	300,000	100,000	3	6,706,910 Feb.. 1898 .20
102	Silver Hill, s.	Nev..	108,000	108,000	1	2,220,200 May . 1898 .05
103	Silver King, s.	Ariz..	10,000,000	100,000	100	490,000 July.. 1899 .25
104	Silver Queen, c.	Ariz..	5,000,000	200,000	25	*
105	Silver State, g.	Colo..	700,000	700,000	1	*
106	Silver State, s. g. l.	Utah.	100,000	100,000	1	1,000 Sept.. 1897 .00½
107	Siskiyou Con., s.	Cal ..	2,000,000	200,000	10	46,000 April. 1898 .01
108	Snow Flake	Utah.	500,000	100,000	5	51,000 July.. 1899 .02
109	South Fork Con.	Utah.	50,000	50,000	1	5,000 Mar.. 1898 .01
110	South Side	Mich.	1,000,000	40,000	25	4,000 Jan... 1899 .10
111	Star, g. s.	Utah.	1,000,000	200,000	5	7,000 Feb.. 1899 .03
112	Success	Utah.	30,000	300,000	0.10	6,750 July.. 1899 .01
113	Sunb am Cons.	Utah.	250,000	250,000	1	33,125 June. 1899 .02
114	Tecumseh, c.	Mich.	1,000,000	40,000	25	40,000 July.. 1897 1.00
115	Temonj, g.	Colo..	1,000,000	1,000,000	1	
116	Tetro	Utah.	300,000	300,000	1	27,000 July.. 1899 .01
117	Triumph	Utah.	1,000,000	100,000	10	1,000 April. 1899 .01
118	Union Cons., g. s.	Nev..	250,000	100,000	2½	2,633,000 Jan.. 1899 .03
119	Utah Cons., s.	Nev..	100,000	100,000	1	480,000 May.. 1899 .05
120	Valeo	Utah.	200,000	200,000	1	10,000 May.. 1899 .05
121	Victory, g. s.	S. D..	1,250,000	250,000	5	2,625 Nov.. 1899 .00½
122	Watt Blue Gravel, g.	Cal...	1,100,000	100,000	10	58,000 May.. 1899 .03
123	Work, g.	Colo..	1,250,000	1,250,000	1	
124	World, g.	Colo..	1,500,000	1,500,000	1	*
125	Yankee Girl	Utah.	250,000	250,000	1	5,000 April. 1899 .02
126	Yellow Jacket, g. s.	Nev..	360,000	120,000	3	5,305,000 April. 1899 .15
127	Yellow Jacket	Utah.	300,000	300,000	1	1,500 Dec.. 1897 .00⅔

G., Gold. S., Silver. L., Lead. C., Copper. B., Borax. * Non-assessable. This table is corrected up to July 10. Correspondents are requested to forward changes or additions.

CHEMICALS, MINERALS, RARE ELEMENTS, ETC.—CURRENT PRICES.

	Cust.	Meas.	Price.
Abrasives—			
Carborundum, f.o.b. Niagara Falls grains		lb.	$0.10
Powd., F. FF. FFF		"	.08
Minute No. 1		"	.15
No. 15		"	1.00
Corundum, N. C.		"	.07@.10
Chester		"	.04½@.05
Emery, Turkish flour		"	.03
Grains		"	.05
Naxos flour		"	.03
Grains		"	.05
Chester flour		"	.03
Grains		"	.05
Peekskill flour		"	.01¾
Grains		"	.02½
Crude, Kuluk, best		lg. ton	18.50
Levant, "		"	22.00
Naxos (Greek) best		"	32.00
Pumice Stone, Am. powd.		lb.	.01@.02
Italian, powdered		"	.01½
Lump, per quality		"	.04@.40
Rottenstone, ground		"	.02½@.03
Lump, per quality		"	.05@.14
Rouge		"	.17@.30
Tripoli, prepared		sh. ton	20.00
Acids—Acetic, 30% pure		lb.	.02¾
30% ch. pure		"	.06½
80% pure		"	.09
Benzoic, English		oz.	.09@.09½
German		lb.	.46@.47
Boracic, pure cryst		"	.11¼
Powdered		"	.11¼@.11¾
Carbolic, cryst. in drums		"	.14½@.15½
Carbonic, liquid		"	.15
Chromic, crude		"	.23
Chem. pure		"	.50
Absol. ch. pure		"	1.75
Hydrochloric, ch. pure		"	.08
Hydrofluoric, 36%		"	.03@.04½
48%		"	.05@.06
Best		"	.25
Nitric, chem. pure		"	.10
Sulphuric, 98%		"	.02
Chem. pure		"	.07
Tartaric, cryst		"	.32
Powder		"	.32½
Alcohol—Grain		gal.	2.42@2.44
Refined wood, 95@97%		"	.75@.80
Purified		"	1.30@1.50
Alum—Lump		100 lbs.	1.65
Powdered		"	2.50
Ground		"	1.75
Chrome, com'l		"	3.50
Aluminum—			
Nitrate		lb.	1.50
Oxide, com'l, common		"	.06½
Best		"	.20
Pure		"	.80
Hydrated		"	.05
Sulphate, pure		"	.02
Com'l		"	1.25
Ammonia—Aqua, 16°		"	.04
18°		"	.04½@.05½
20°		"	.05@.06
26°		"	.07@.08
Ammonium—Bromide, p'r		"	.52@.53
Carbonate lumps		"	.07¼@.07½
Powdered		"	.08¾@.08½
Muriate, gran., white		"	.06
Lump		"	.08½
Gray		"	.05⅞
Nitrate, white, pure (99%)		"	.10½
Phosphate, com'l		"	..2@.15
Chem. pure		"	.60
Antimony—Glass		"	.30@.40
Needle, lump		"	05¾@.06
Powdered, ordinary		"	.05¼
Best		"	.08¾
Oxide, com'l white, 95%		"	.20
Com'l white, 99%		"	.35
Com'l gray		"	.07@.08
Sulphuret, com'l		"	.16
Arsenic—White		"	.04¼@.04¾
Red		"	.07¾@.08½
Asphaltum—			
Ventura, Cal.		sh. ton	32.00
Cuban, refined		lb.	.04½
Common		"	.02
Egyptian, refined		"	.06½
Trinidad, refined		"	.01½
San Valentino		lg. ton	16.00
Gilsonite, Utah, ordinary		lb.	.03¼
Select		"	.03¾
Barium—Carbonate, Lump, 80@90%		sh. ton	25.00@27.50
92@98%		"	25.25@29.00
Powdered, 80@90%		lb.	.01¾@.02
Chloride, com'l		"	.02¼
Chem. pure cryst		"	.05
Nitrate, powdered		"	.07
Oxide, com'l, hyd. cryst		"	.18@.22
Hydrated, pure cryst.		"	.25
Pure, powd		"	.27
Sulphate		"	.01@.02¾
Barytes—Crude, No. 1		sh. ton	9.00@10.00
No. 2		"	8.00@8.25
No. 3		"	7.75@8.00
Prime White		"	18.00@20.00
Floated		"	19.00@20.00
Bauxite—Georgia, f.o.b. cars, first grade		lg. ton	5.10
Second grade		"	4.35
Alabama, f. o. b. cars Rock Run		"	3.85
Benzole—90%		gal.	1.00@1.10
Bismuth—Oxide, hydr.		lb	2.25@2.56
Subnitrate cryst		oz.	.09@.10
Bitumen, "B"		lb.	.03½
"A"		"	.05
Bone Ash		"	02¾@.03½
Borax—Cryst. and pow'd		"	.07¼
Calcined		"	.20
Bromine—Bulk		"	.45
Cadmium—Metallic		"	1.90@2.00
Sulphide		"	1.90@2.25
Sulphate		"	2.00@2.50
Calcium—Carbide, in ton lots, f. o. b. Niagara Falls, N.Y.		lb.	.03@.04
Acetate, pure white		100 lbs.	1.00
Gray		"	1.25@1.30
Brown		"	.80@.85
Carbonate, ppt.		lb.	.05
Chloride		100 lbs.	.90@1.00
Sulphite		lb.	.05
Cement—			
Portland, Am., 400 lbs.		bbl.	1.50@2.00
Foreign		"	1.75@2.50
"Rosendale," 300 lbs.		"	.90
Sand cement, 400 lbs.		"	1.55@1.95
Slag cement, imported		"	1.65
Ceresine—			
Orange and Yellow		lb.	.10½@.11½
White		"	.11@.13½
Chalk—Lump, bulk		sh. ton	2.15@2.25
Precipitated		lb.	.04@.04½
French		100 lbs.	.30@.35
Chlorine—Liquid		lb.	.30
Water		"	.15
Chrome Ore—			
(50% chrome) ex-ship		lg. ton	22.00
Sand		"	35.00
Clay, China—Am. com., ex-dock, N. Y.		sh. ton	7.50
Am. best, ex-dock, N. Y.		"	8.50
English, common		lg. ton	11.00
Best grade		"	17.00
Fire, ground, f.o.b. Jersey City, N. J.		sh. ton	4.00@5.00
Slip Clay		"	6.00
Cobalt—Carbonate		lb.	1.50
Nitrate		"	1.30
Oxide—Black		"	1.76
Gray		"	2.25
Smalt, blue ordinary		"	.14
Best		"	.23
Chem. pure		"	5.00
Copperas		100 lbs.	.60@.62½
Copper—Carbonate		lb.	.18@.20
Chloride		"	.25
Nitrate, crystals		"	.35
Oxide		"	.19@.20
Cream of Tarter—crys.		"	.23½
Granulated		"	.24
Powdered		"	.23½@.24
Cryolite		"	.06½
Explosives—			
Blasting powder, A		"	.10¾
Blasting powder, B		"	.05@.05¾
"Rackarock," A		"	.25
"Rackarock," B		"	.18
Judson R.R. powder		"	.10
Dynamite, (40% nitro-glycerine)		"	.15
(50% nitro-glycerine)		"	.17
(60% nitro-glycerine)		"	.19
(75% nitro-glycerine)		"	.23
Glycerine for nitro (32 2-10° Be.)		"	.11@.11¼
Nitro-Benzole		"	.14@.15
Feldspar—Ground		sh. ton	6.50@7.75
Flint—(See Silica).			
Fluorspar—Am. lump		"	6.50@7.00
Gravel		"	6.00
Crushed		"	6.00
Ground		"	10.50@11.00
Foreign, lump		"	8.00@12.00
Ground		"	11.50@14.00
Fuller's Earth—Lump		100 lbs.	.75
Powdered		"	.85
Graphite—(See Plumbago).			
Gypsum—			
Am. gr'd (terra alba)		sh. ton	8.00
Fertilizer		"	7.00
Rock		lg. ton	4.00
English and French		"	14.00@16.00
Infusorial Earth—Ground, American, best		"	20.00
French		"	37.50
German		"	40.00
Iodine—Crude		100 lbs.	2.45
Resublimed		"	2.85
Iron—Chromate		lb.	.03@.10
Muriate		"	.05
Nitrate, com'l		"	.01¼@.01¾
True		"	.04
Oxide		"	.02@.12
Scale		"	.01@.03
Kaolin—(See Clay, China).			
Kryolith—(See Cryolite.)			
Lead—Acetate, white, b'k'n		lb.	.07¼
Com'l, broken		"	.06¼
White, gran		"	.08¼
Nitrate, com'l		"	.0b½@.06¾
Chem. pure		"	.35
Lime—Bldg., ab. 250 lbs		bbl.	.65@.75
Finishing		lb.	.75@.80
Magnesite—			
Crude, lump (95%) Greece		lg. ton	7.00
German (85%)		"	12.00
Calcined, 600° C. (Greece)		sh. ton	17.50
1,000° C. (Greece)		"	19.50
3,000° F. (Greece)		lg. ton	30.00
Domestic, soft		sh. ton	12.00@15.00
Bricks, all magnesite		M.	185 00
Magnesite and chrome		"	226.00
Magnesium—			
Metallic, ingots (Ger.)		kg.	5.95@6.90
Powdered (Ger.)		"	6.19
Ribbon or wire (Ger.)		"	10.00
Carbonate		lb.	.10
Chloride, com'l		"	01¾
Fused		"	.20
Nitrate		"	.60
Manganese—Crude, pow'd 73@75% binoxide		"	.01¼@.01½
75@85% binoxide		"	.01½@.02½
85@90% binoxide		"	.02½@.03¼
90@95% binoxide		"	.02¾@.05½
Carbonate		"	.16@.20
Chloride		"	.04
Ore, 50%		unit	.22@.22½
Marble—Flour		sh. ton	5.50@8.00
Mercury—Bichloride		lb.	.59@.60
Bisulphate		"	.41
Mica—N. Y. gr'nd, coarse		"	.04@.05
Fine		"	.06@.08
Sheets, 1½x3 in		"	.60
8x10 in		"	13.00
Mineral Wool—F. o. b. Stanhope, N. J.:			
Slag, ordinary		100 lbs.	1.00
Selected		"	1.67
Extra		"	4.00
Rock, ordinary		sh. ton	37.00
Selected		100 lbs.	4.00
Extra		"	7.00
Monazite—92%		sh. ton	140.00
Nickel—Oxide, bl'k No. 1		lb.	1.00
Black No. 2		"	.60
Green, No. 1		"	1.00
No. 2		"	.60
Oils—			
Black, reduced 29 gr.: 25@30 cold test		gal.	.07@.07½
15		"	.08@.08½
Zero		"	.11@12
Summer		"	.06½@.07
Smith's Ferry, 33@34 gr.		"	.07½@.08½
West Virginia, 29 gr.		"	.22@.24
Cylinder, dark steam ref		"	.08@.13
Dark filtered		"	.11@.16
Light filtered		"	.13@.15½
Extra cold test		"	.21@.25
Gasolene, 86° @ 88°		"	.14@.16
90°		"	.19@.20
Neutral filtered, lemon, 33@34 gr.		"	.13@.18½
White, 33@34 gr.		"	.21@.23
Wool grade, 32 gr.		"	.11@.14
Naphtha, crude, 68@72°		"	.10
Deodorized		"	.10½
Paraffine, high viscosity		"	.20@.25
903–907 sp. gr		"	.09¼@.09½
903 sp. gr		"	.08¼@.08½
883 "		"	.07½@.07¾
865@875 sp. gr.		"	.07¼@.07½
Red No. 1		"	.08¾@.09¼
No. 2		"	.08¼@.08½
Linseed, domestic raw		"	.36@.39
Boiled		"	41@.42
Calcutta, raw		"	.54
Graphite, lubricating, Am. dry		lb.	.10
In oil		"	.12
Axle grease		"	.08½@.10
Wood grease		"	.05@.06
Ozokerite—Foreign		"	.06@.08
Paints and Colors—			
Benzine, Sumatra		"	.35@.40
Marbled		"	.27@.28
Chrome green, common		"	.05@.06
Extra		"	.12@.15
Chem. pure		"	.20@.30
Super		"	.10@.12
Yellow, common		"	.10
Best		"	.25
Silica Graphite, thick		"	.12
Thinned		gal.	1.15
Lampblack—Com'l		lb.	.03@.05
Refined		"	.08@.10
Calcined		"	.12@.20
Fine spirit		"	.20@.35
Litharge, Am. powd		"	.05½@.05¾
English flake		"	.07¾@.08
Metallic, brown		sh. ton	16.00@20.00
Red		"	16.00@20.00
Ocher, Am. common		"	9.25@10.00
Best		"	21.25@25.00
Dutch, washed		lb.	.04¾@.05
French, washed		"	.01¼@.02½
Orange mineral, Am.		"	.07¾@.08¾
Foreign, as to make		"	.08½@.11
Paris green, pure		"	.12@.14
Red lead, American		"	.05¼@.05¾
Foreign		"	.07½@.08
Shellac, "D. C."		"	.27@.30
Native		"	.17@.18
Turpentine, spirits		gal.	.44½@.45
Ultramarine, best		lb.	.25
Vermilion, Amer. lead, Quicksilver, bulk		"	.14@.16
Chinese		"	.61
English, imported		"	.80@.90
Artificial		"	.65
White lead, Am., dry		"	.10@.20
In oil		"	.05@.05½
English, in oil		"	.05½@.06½
Whiting, common		100 lbs.	.07½@.08¾
Gilders		"	.40½
Zinc white, Am., ex. dry		lb.	.47
American, red seal		"	.04¾@.05¼
Green seal		"	.07¼@.09
Foreign, red seal, dry		"	.08@.08½
Green seal, dry		"	.07½@.08⅝
Foreign, red seal, in oil		"	.07¼@.09½
Green seal, in oil		"	.10¼@.11¼
Plumbago—Am., pulv., f.o.b., Providence, R. I.		sh. ton	.11¾@.12½
Lump		"	30.00
German, lump		100 lbs.	8.00
Pulverized		"	1.50@2.00
Ceylon, pulv. common		lb	2.25
Best		"	.03¾
Italian, pulv		"	.05@.08
Potash—Caustic		"	.01¼
Potassium—			.04@.05
Metallic, in balls (Ger.)		kg.	17.85
Bicarbonate cryst		lb.	.08½
Powdered or gran		"	.12
Bichromate		"	.09¾
Bromide		"	.46
Carbonate		"	.02¾@.03½
Chromate		"	.35
Cyanide (98@99%)		"	.28@.30
Permanganate, pure cr.		"	.14@.15
Silicate		"	.06
Prussiate, yellow		"	.16½@.17½
Red		"	.37@.40
Potassium—			
Sulphide, com'l		lb.	.10
Quartz—(See Silica).			
Rosin—Common		bbl.	1.30
Best		"	2.65
Salt—N.Y. com. fine abt. 380 lbs		bbl.	.70
N. Y. agricultural		sh. ton	1.50
N. Y. coarse		"	2.30
N. Y. dairy and table		"	2.90
Saltpeter—Crude		100 lbs.	3.80@3 85
Refined		"	4.25@5.50
Silica—			
Ground quartz, ord		sh. ton	6.00@8.00
Best		"	12,00
Lump quartz		"	2.50@4.00
Fire bricks (Blue Welch)		M.	35.00
Silver—Chloride		oz.	.65
Nitrate		"	.41@.42½
Oxide		"	.85@1.10
Sodium—Metallic		lb.	.75
Acetate, com'l		"	.03½
Bichromate		"	.07¾
Bisulphite, com'l		"	.01½
Bromide		"	.49@.50
Chlorate, com'l		"	.09¾@.10
Hyposulphite		100 lbs.	1.60@1.70
Nitrite		lb.	.07½@.07¾
Peroxide		"	.45
Phosphate		"	.03
Triphosphate		"	.04
Silicate, conc		"	.01@.01½
Sulphate, gran., puri'd		"	.03
Sulphide		100 lbs.	1.75
Sulphite		lb.	.02½
Tungstate, com'l		"	.35
Pure		"	.50
Strontium—Nitrate		"	.09@.10
Sulphur—Roll		100 lbs.	1.70
Flour		"	1.80@1.85
Flowers, sublimed		"	2.00
Talc—N. C No. 1		sh. ton	15.00@15.50
No. 2		"	10.00@12.00
N. Y., Fibrous		"	8.00@9.00
French, best		"	20.00
Italian		"	20.00@30.00
Tar—Coal		bbl.	3.00
Tin—Chloride		lb.	.11@.13
Crystals		"	.22@.23
Muriate		"	.06
Oxide, white, ch. pure		"	.36@.40
Uranium—Oxide		"	1.80@2.00
Zinc—Metallic, ch. pure		"	.09@.10
Carbonate		"	.15
Chloride		"	.06@.08
Dust		"	.07@.07¼
Sulphate		"	.02½

THE RARE ELEMENTS.

Prices given are at makers' works in Germany, unless otherwise noted.

	Cust.	Meas.	Price.
Barium—Amalgam		grm.	$1.19
Electrol		"	5 71
Beryllium—Powder		"	5.95
Crystals		"	9.04
Nitrate (N. Y.)		oz.	2.50
Boron—Amorphous, pure		grm	.19
Crystals, pure		"	1.43
Nitrate (N. Y.)		lb.	1.50
Calcium—Electrol		"	4.28
Cerium—Fused		grm.	2.02
Nitrate (N. Y.)		lb.	21.00
Chromium—Fused		kg.	5.95
Pure powder 95%		"	1.79
Chem. pure cryst		grm.	.21
Cobalt—(98@99%)		kg.	5.35@5.71
Pure		"	30.94
Didymium—Powder		grm.	3.81
Nitrate (N. Y.)		oz.	4.00
Erbium		grm.	3.09
Nitrate (N. Y.)		oz.	3.00
Gallium		grain	9.52
Germanium—Powder		grm.	33.32
Fused		"	35.70
Glucinum—Powder		"	5.95
Crystals		"	9.04
Nitrate (N. Y.)		oz.	2.50
Indium		grm	4.05
Iridium—		"	2.38
Lanthanum—Powder		"	4.28
Electrol, in balls		"	9.04
Nitrate (N. Y.)		oz.	3.50
Lithium		grm.	2.38
Nitrate (N. Y.)		oz.	.60
Molybdenum—Powder		kg.	2.62
Fused, electrol 95%		100 grms.	15.47
Niobium		grm.	3.81
Osmium		"	.95
Palladium		"	.95
Rhodium		"	2.87
Rubidium—Pure		"	4.76
Ruthenium—Pure powd		"	2.38
Selenium—Com'l powder		kg	30.94
Sublimed powder		"	40.46
Sticks		"	33.32
Silicium—Amorpheus		100 grms.	2.87
Crystals, pure		"	5.95
Strontium—Electrol		grm.	6.19
Tantalium—Pure		"	3.57
Tellurium—Ch. p. sticks		100 grms.	11.90
Powder		"	9.52
Thallium		kg.	23.80
Thorium—Metallic		grm.	7.85
Nitrate 49@50% (N. Y.)		lb.	5.00@5.50
Titanium		grm.	.71
Uranium		"	.48
Nitrate (N. Y.)		oz.	.25
Vanadium—Fused		grm.	1.19
Wolfram—Fused		100 grms.	22.80
Powder, 95@98%		kg.	1.90
Chem. pure		"	6.42
Yttrium		grm.	3.33
Nitrate (N. Y.)		oz.	4.00
Zirconium—Com'l		kg.	119.00
Pure		grm.	.71
Nitrate (N. Y.)		oz.	1.00

NOTE.—These quotations are for wholesale lots in New York unless otherwise specified, and are generally subject to the usual trade discounts. This table is revised up to June 16th. Readers of the ENGINEERING AND MINING JOURNAL are requested to report any corrections needed, or to suggest additions which they may consider advisable. See also Market Review of Chemicals and Minerals.